FIG.1

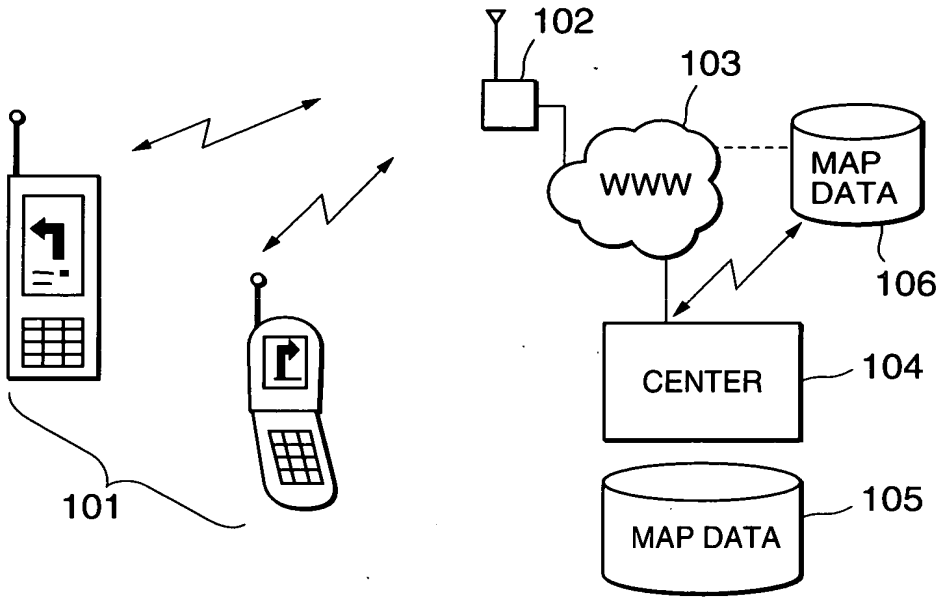

102
103
WWW
MAP DATA
106
CENTER
104
MAP DATA
105
101

FIG.2

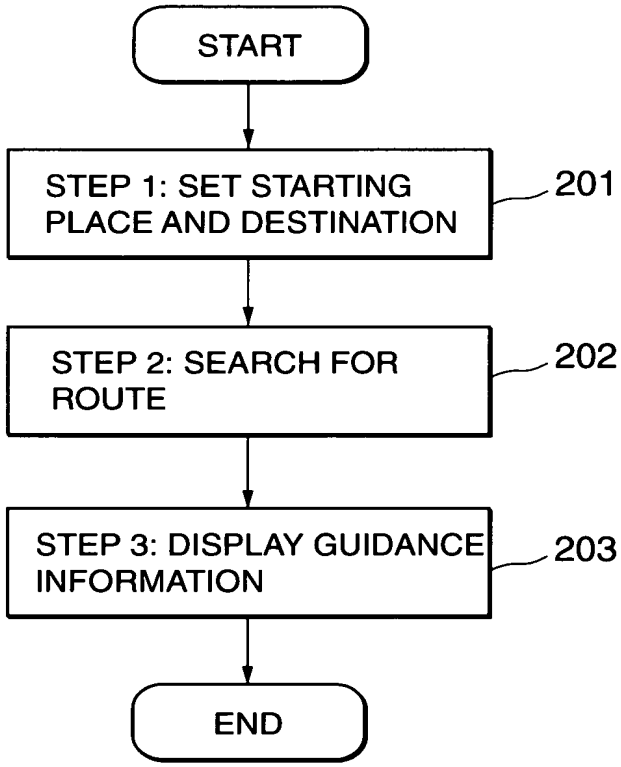

START
STEP 1: SET STARTING PLACE AND DESTINATION
201
STEP 2: SEARCH FOR ROUTE
202
STEP 3: DISPLAY GUIDANCE INFORMATION
203
END

FIG.3

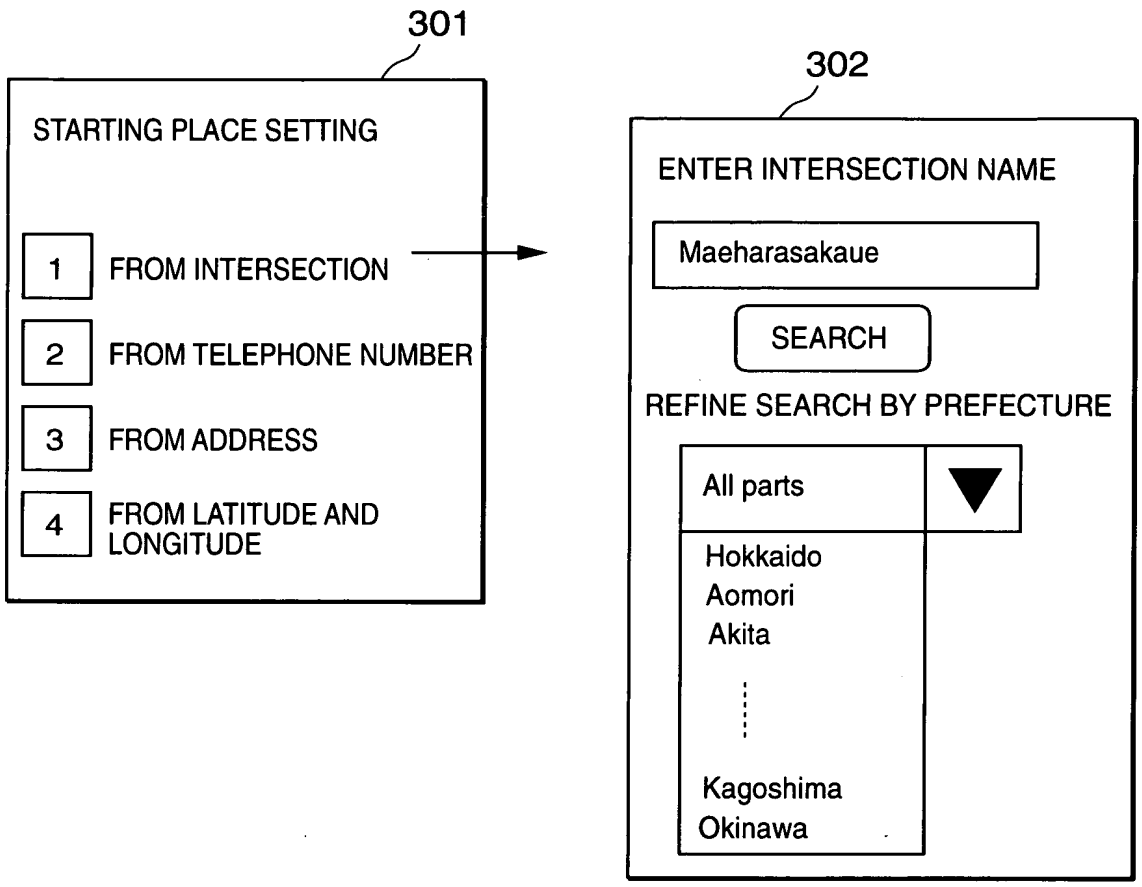

301
STARTING PLACE SETTING
1 FROM INTERSECTION
2 FROM TELEPHONE NUMBER
3 FROM ADDRESS
4 FROM LATITUDE AND LONGITUDE
302
ENTER INTERSECTION NAME
Maeharasakaue
SEARCH
REFINE SEARCH BY PREFECTURE
All parts
Hokkaido
Aomori
Akita
Kagoshima
Okinawa

FIG.4

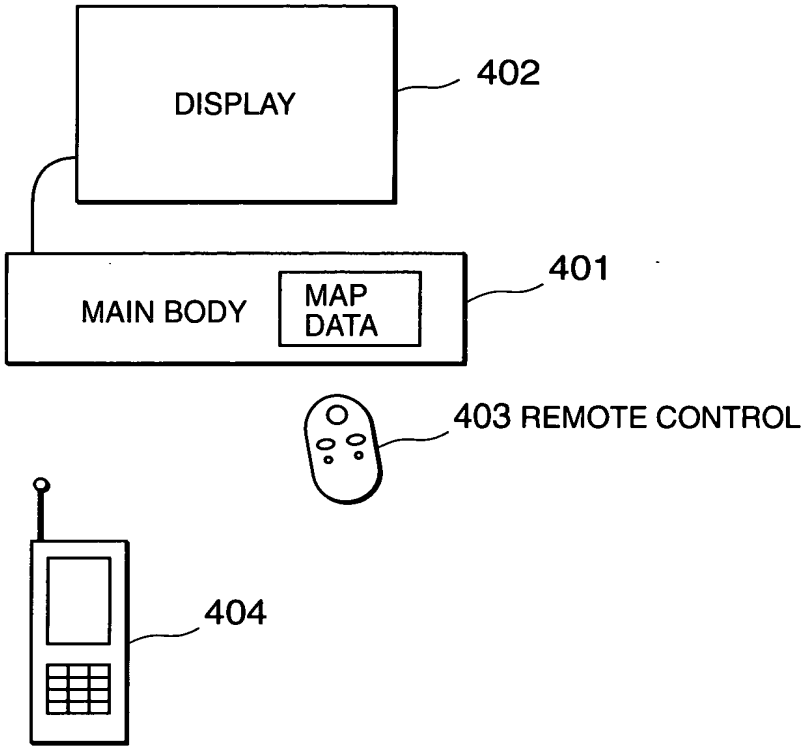


FIG.5

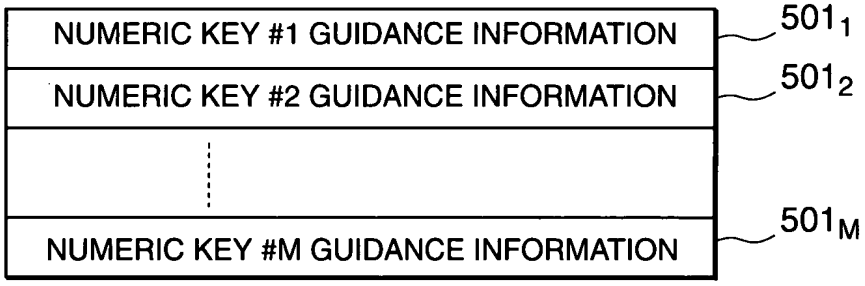


FIG.6

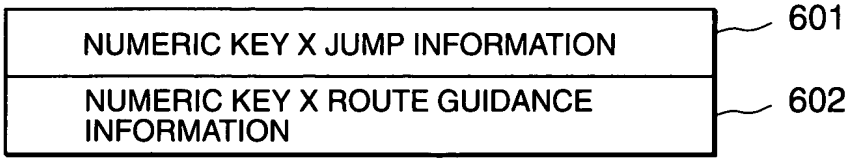


FIG.7

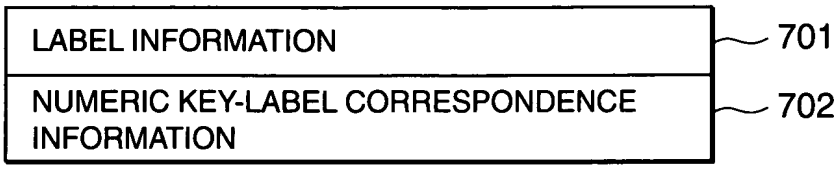


FIG.8

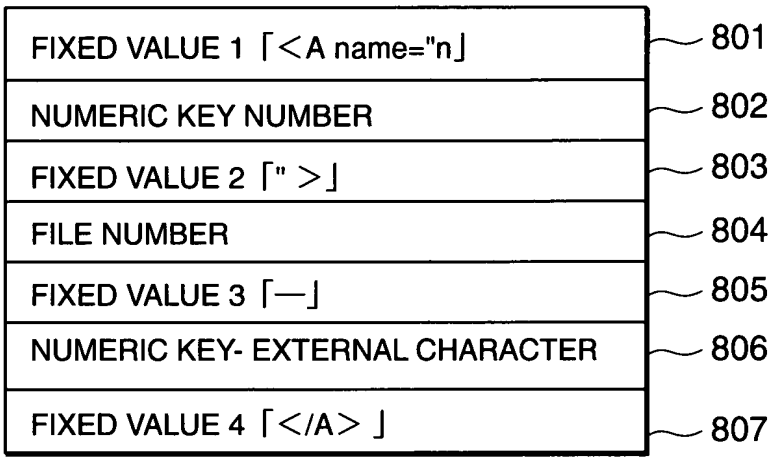


FIG.9

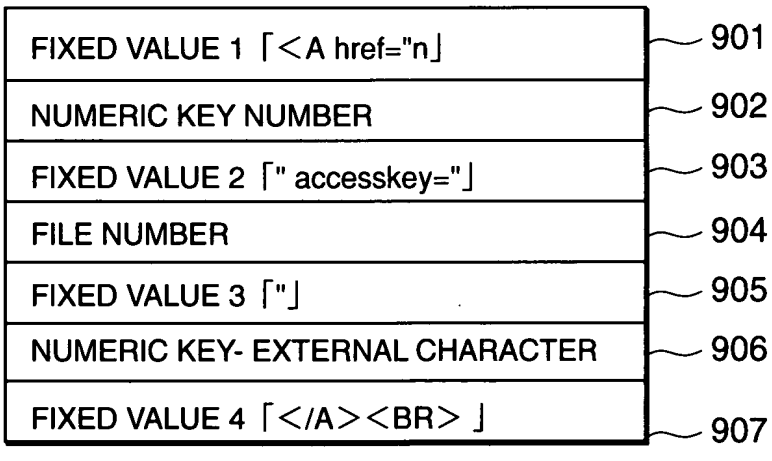


FIG.10

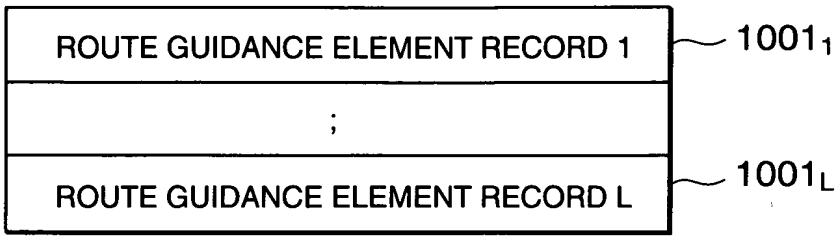

ROUTE GUIDANCE ELEMENT RECORD 1
1001₁
;
ROUTE GUIDANCE ELEMENT RECORD L
1001L

FIG.11

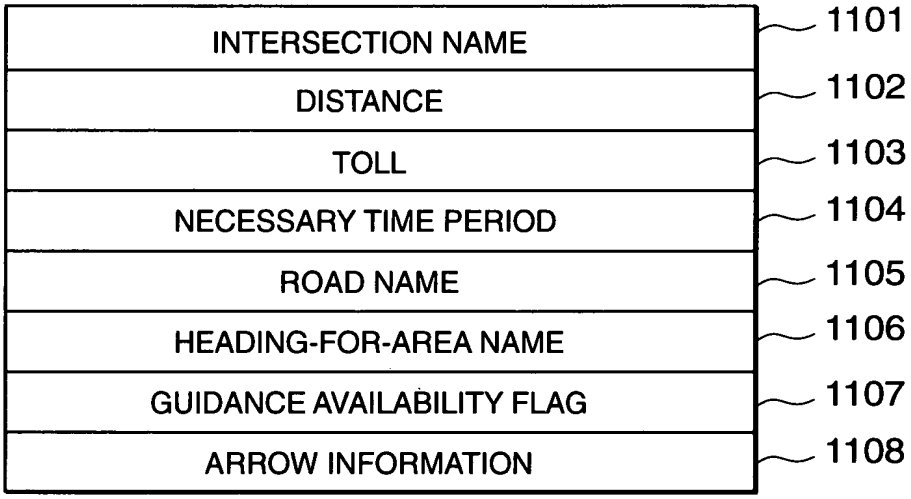

INTERSECTION NAME
1101
DISTANCE
1102
TOLL
1103
NECESSARY TIME PERIOD
1104
ROAD NAME
1105
HEADING-FOR-AREA NAME
1106
GUIDANCE AVAILABILITY FLAG
1107
ARROW INFORMATION
1108

FIG.12

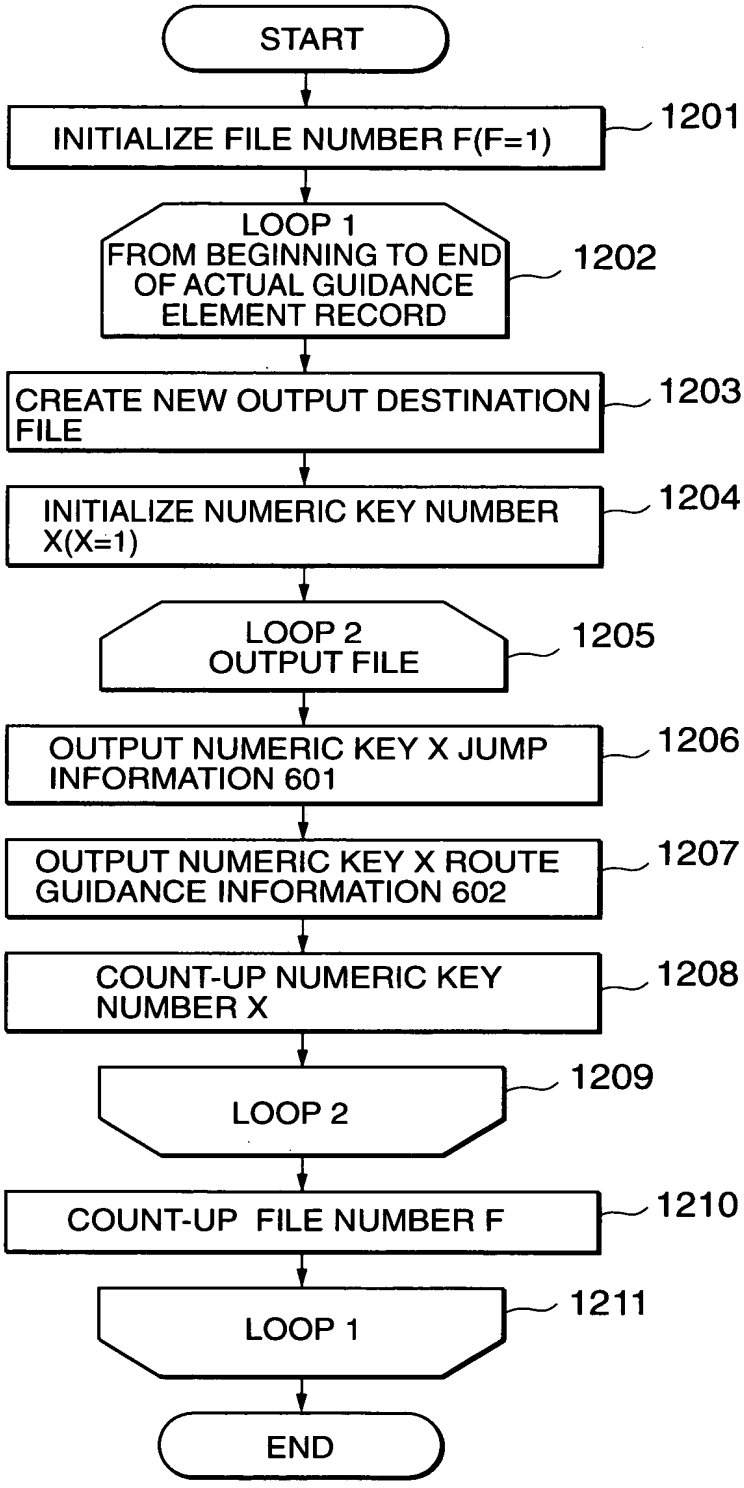

START
INITIALIZE FILE NUMBER F(F=1)
1201
LOOP 1
FROM BEGINNING TO END
OF ACTUAL GUIDANCE
ELEMENT RECORD
1202
CREATE NEW OUTPUT DESTINATION FILE
1203
INITIALIZE NUMERIC KEY NUMBER X(X=1)
1204
LOOP 2
OUTPUT FILE
1205
OUTPUT NUMERIC KEY X JUMP INFORMATION 601
1206
OUTPUT NUMERIC KEY X ROUTE GUIDANCE INFORMATION 602
1207
COUNT-UP NUMERIC KEY NUMBER X
1208
LOOP 2
1209
COUNT-UP FILE NUMBER F
1210
LOOP 1
1211
END

FIG.13

1301 NUMERIC KEY NUMBER	1302 NUMERIC AND EXTERNAL CHARACTER	1303 EXTERNAL CHARACTER IMAGE
1	#&63879;	1
2	#&63880;	2
3	#&63881;	3
4	#&63882;	4
5	#&63883;	5
6	#&63884;	6
7	#&63885;	7
8	#&63886;	8
9	#&63887;	9
0	#&63888;	0

FIG.14

1401

```
<HTML><HEAD><TITLE>21</TITLE></HEAD><BODY>
<HR><A name="n1">1-&#63879;</A><A href="#n1" accesskey="1">Maeharasakaue</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4sd.gif"ALT=" straight ahead"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
from here<BR>straight ahead<BR>1.5km<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n2">1-&#63880;</A><A href="#n2" accesskey="2">Maehara-hasyutujomae</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4sd.gif"ALT="straight ahead"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
from here<BR>straight ahead<BR>200m<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n3">1-&#63881;</A><A href="#n3" accesskey="3">intersection</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4ld.gif"ALT=" turn left"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
 after left turn<BR>2km<BR>straight ahead<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n4">1-&#63882;</A><A href="#n4" accesskey="4">Wakaba-cho 2</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4ld.gif"ALT="turn left"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
after left turn<BR>5km<BR>straight ahead<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n5">1-&#63883;</A><A href="#n5" accesskey="5">Shimohuda</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4rd.gif"ALT="turn right"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
after right turn<BR>270m<BR>straight ahead<BR CLEAR=ALL></DIV><BR><BR>
<HR>&#63909<A href="22 htm#n1" accesskey="0">next</A><BR></BODY><HTML>
```

1402

```
<HTML><HEAD><TITLE>22</TITLE></HEAD><BODY>
&#63898<A href="21 htm#n5">forward</A>
<HR><A name="n1">2-&#63879;</A><A href="#n1" accesskey="1">Futakotamagawa</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4rd.gif"ALT="turn right"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
after right turn<BR>2km<BR>straight ahead<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n2">2-&#63880;</A><A href="#n2" accesskey="2">Mizonokuchi stn. south exit</A><BR>
<DIV ALIGN=CENTER><IMG SRC="3ld.gif"ALT="turn left"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
after left turn<BR>2km<BR>straight ahead<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n3">2-&#63881;</A><A href="#n3" accesskey="3">Nokyo-mae</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4ld.gif"ALT="turn left"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
after right turn<BR>1.3km<BR>straight ahead<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n4">2-&#63882;</A><A href="#n4" accesskey="4">Shibogushi</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4rd.gif"ALT="turn right"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
after right turn<BR>3.5km<BR>straight ahead<BR CLEAR=ALL></DIV><BR><BR>
<HR><A name="n5">2-&#63883;</A><A href="#n5" accesskey="5">Yoshida-guchi</A><BR>
<DIV ALIGN=CENTER><IMG SRC="4ld.gif"ALT="turn left"ALIGN=LEFT WIDTH=48 HEIGHT=48 HSPACE=4>
after left turn<BR>500km<BR>straight ahead<BR>goll<BR CLEAR=ALL></DIV><BR><BR>
<HR>&#63888;<A href="11.htm#n1" accesskey="0">to guidance</A><BR></BODY><HTML>
```

FIG.15

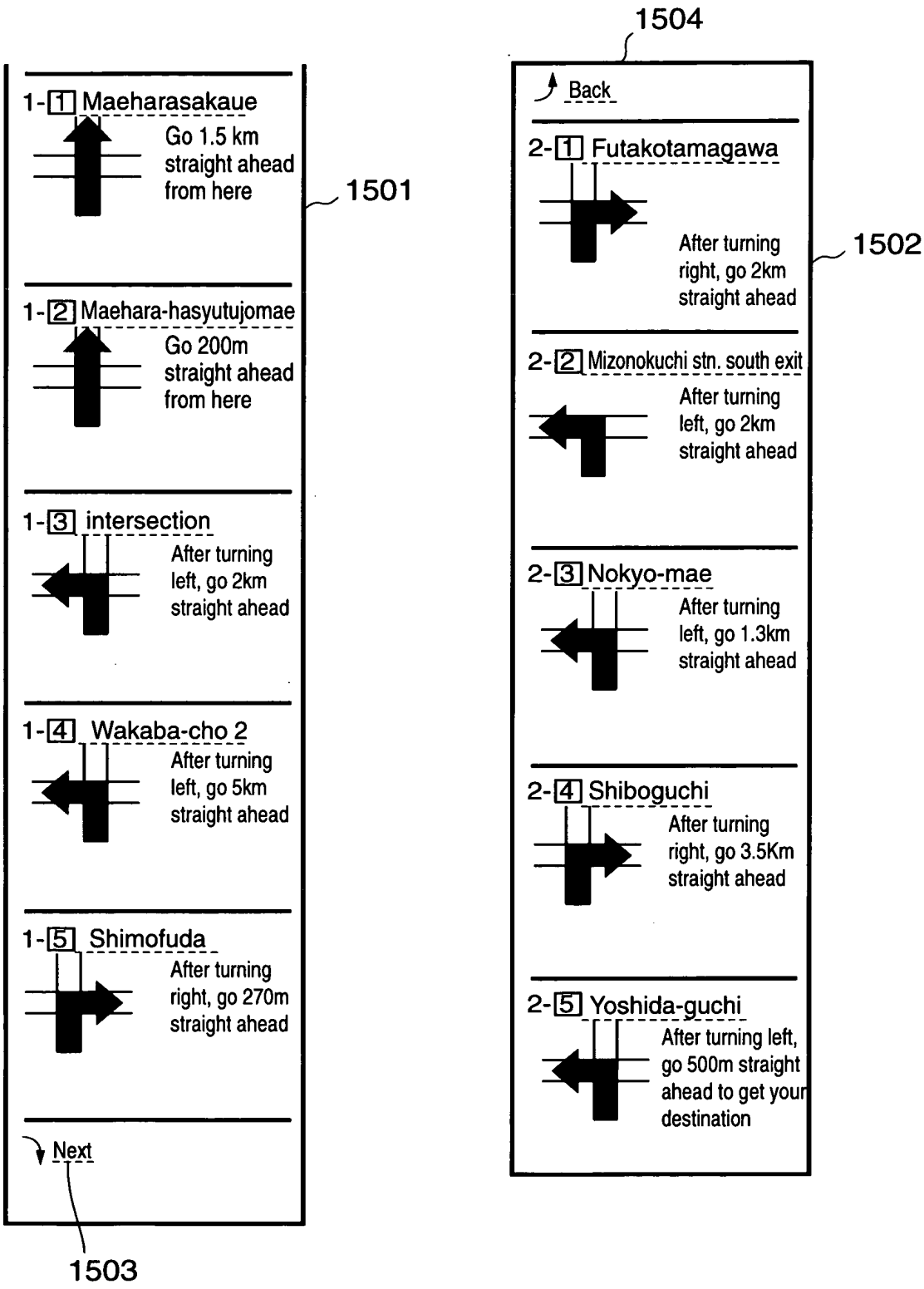

1504
Back
2-1 Futakotamagawa
After turning right, go 2km straight ahead
2-2 Mizonokuchi stn. south exit
After turning left, go 2km straight ahead
2-3 Nokyo-mae
After turning left, go 1.3km straight ahead
2-4 Shiboguchi
After turning right, go 3.5Km straight ahead
2-5 Yoshida-guchi
After turning left, go 500m straight ahead to get your destination
1502
1-1 Maeharasakaue
Go 1.5 km straight ahead from here
1-2 Maehara-hasyutujomae
Go 200m straight ahead from here
1-3 intersection
After turning left, go 2km straight ahead
1-4 Wakaba-cho 2
After turning left, go 5km straight ahead
1-5 Shimofuda
After turning right, go 270m straight ahead
Next
1501
1503

FIG.16

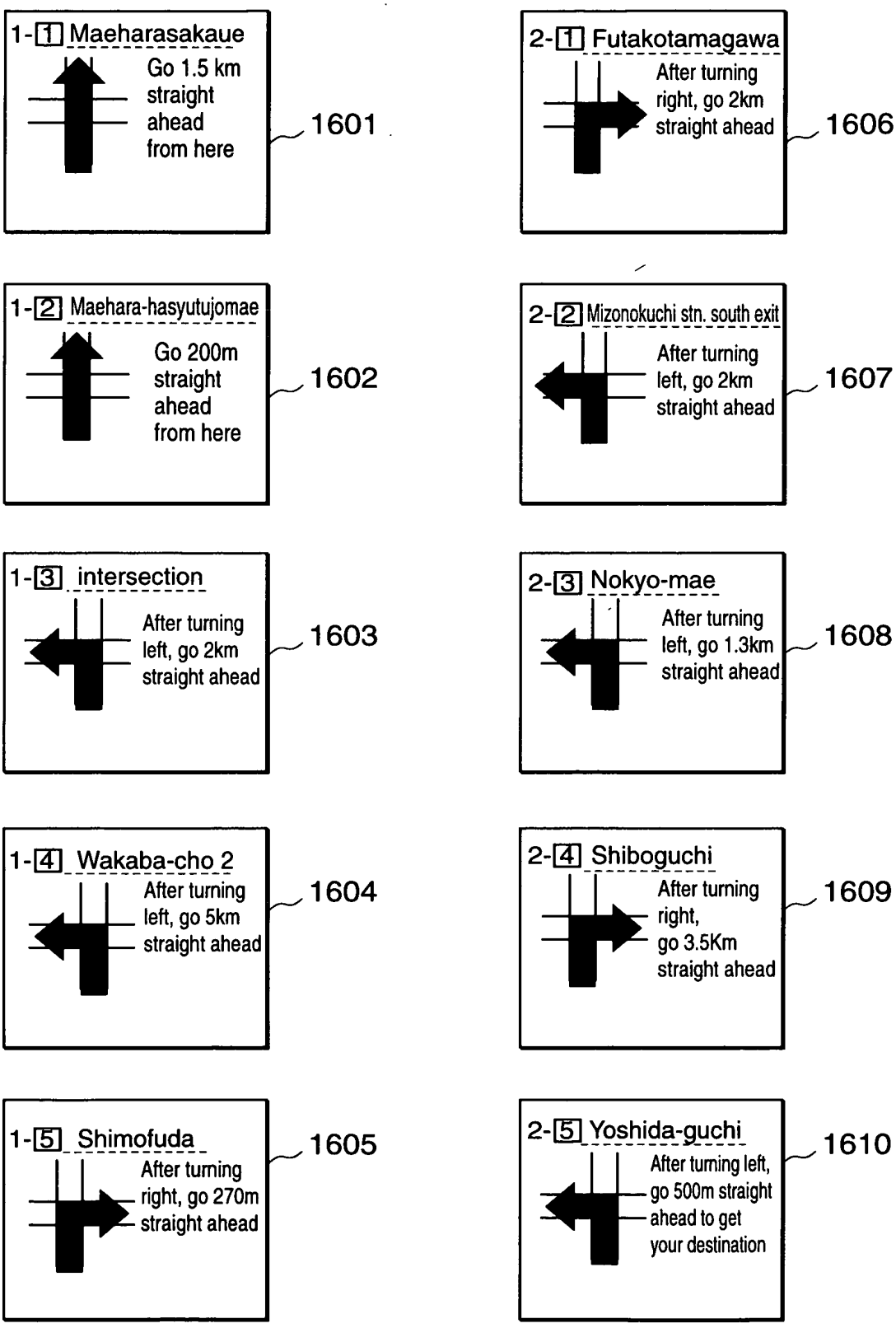
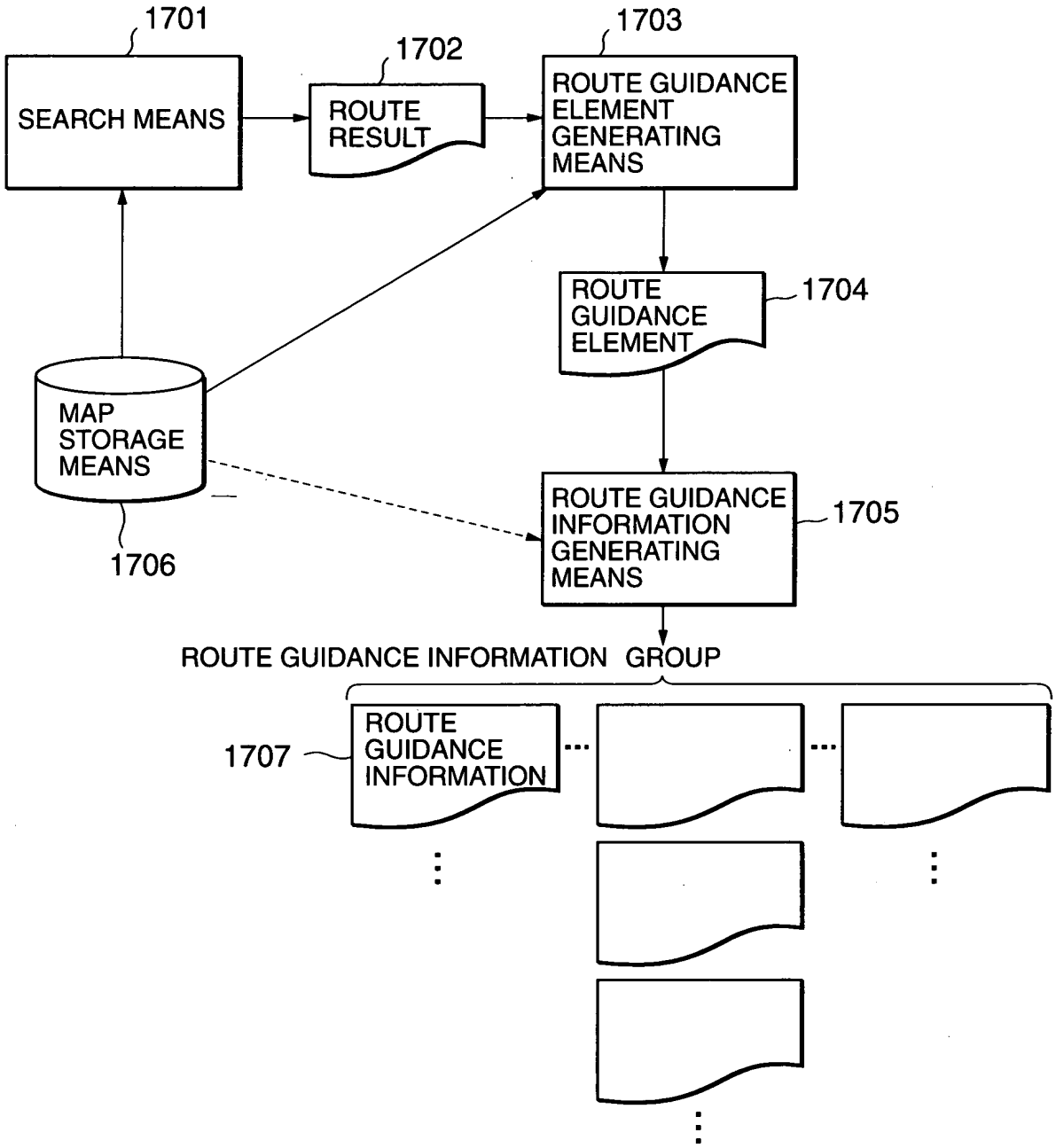

1-1 Maeharasakaue
Go 1.5 km straight ahead from here
1601
2-1 Futakotamagawa
After turning right, go 2km straight ahead
1606
1-2 Maehara-hasyutujomae
Go 200m straight ahead from here
1602
2-2 Mizonokuchi stn. south exit
After turning left, go 2km straight ahead
1607
1-3 intersection
After turning left, go 2km straight ahead
1603
2-3 Nokyo-mae
After turning left, go 1.3km straight ahead
1608
1-4 Wakaba-cho 2
After turning left, go 5km straight ahead
1604
2-4 Shiboguchi
After turning right, go 3.5Km straight ahead
1609
1-5 Shimofuda
After turning right, go 270m straight ahead
1605
2-5 Yoshida-guchi
After turning left, go 500m straight ahead to get your destination
1610

FIG.17


1701
SEARCH MEANS
1702
ROUTE RESULT
1703
ROUTE GUIDANCE ELEMENT GENERATING MEANS
ROUTE GUIDANCE ELEMENT
1704
MAP STORAGE MEANS
1706
ROUTE GUIDANCE INFORMATION GENERATING MEANS
1705
ROUTE GUIDANCE INFORMATION GROUP
1707
ROUTE GUIDANCE INFORMATION

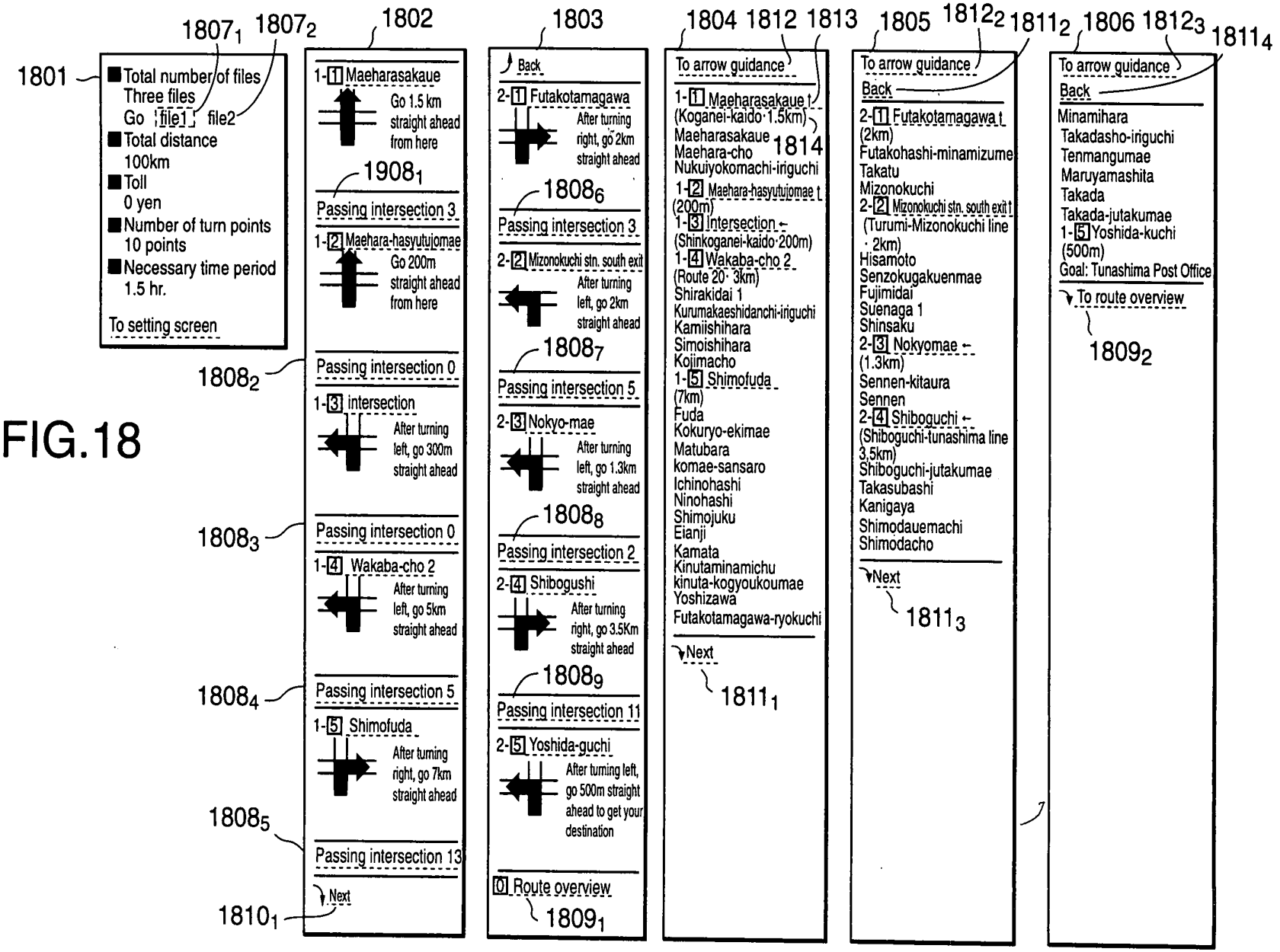


FIG.18

1008967 · 072702

FIG.19

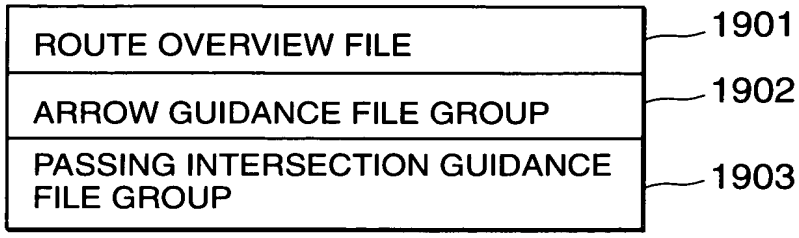

ROUTE OVERVIEW FILE
ARROW GUIDANCE FILE GROUP
PASSING INTERSECTION GUIDANCE FILE GROUP
1901
1902
1903

FIG.20

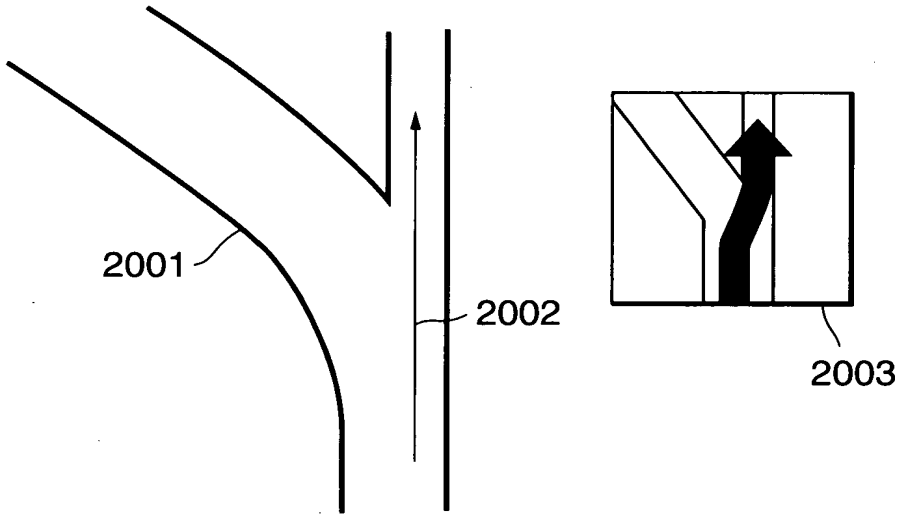

2001
2002
2003

FIG.21

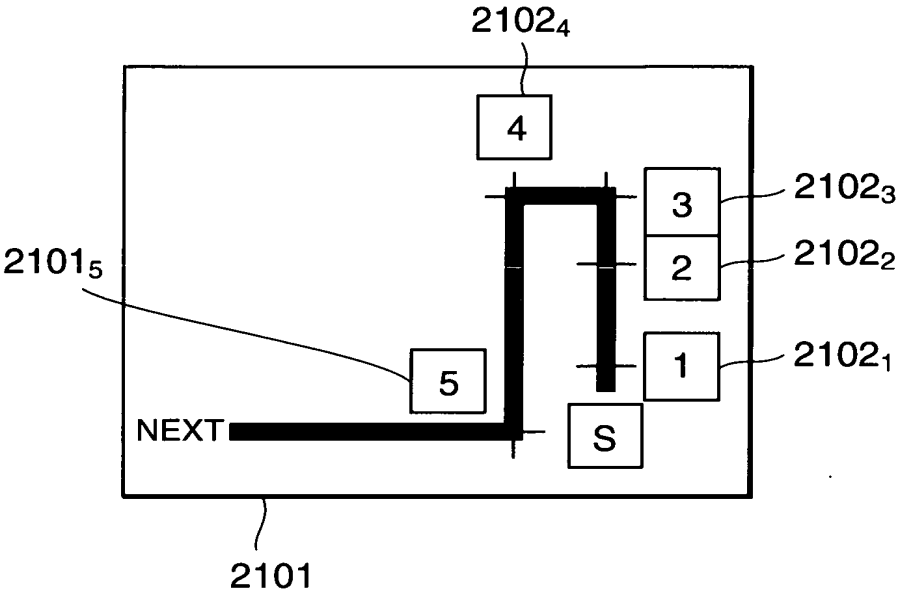


FIG.22

ROUTE OVERVIEW FILE	2201
ROUTE GUIDANCE SIMPLIFIED MAP FILE GROUP	2202
ARROW GUIDANCE FILE GROUP	2203
PASSING INTERSECTION GUIDANCE FILE GROUP	2204

FIG.23

FILE NUMBER INFORMATION	2301
SIMPLIFIED MAP IMAGE INFORMATION	2302
NUMERIC KEY JUMP INFORMATION	2303

FIG.24

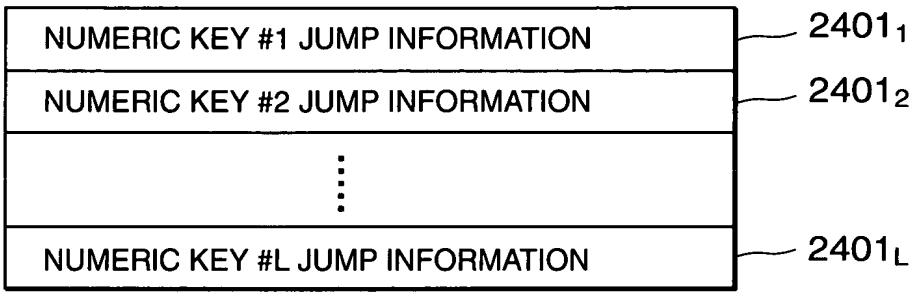

NUMERIC KEY #1 JUMP INFORMATION
NUMERIC KEY #2 JUMP INFORMATION
NUMERIC KEY #L JUMP INFORMATION
2401 1
2401 2
2401 L

FIG.25

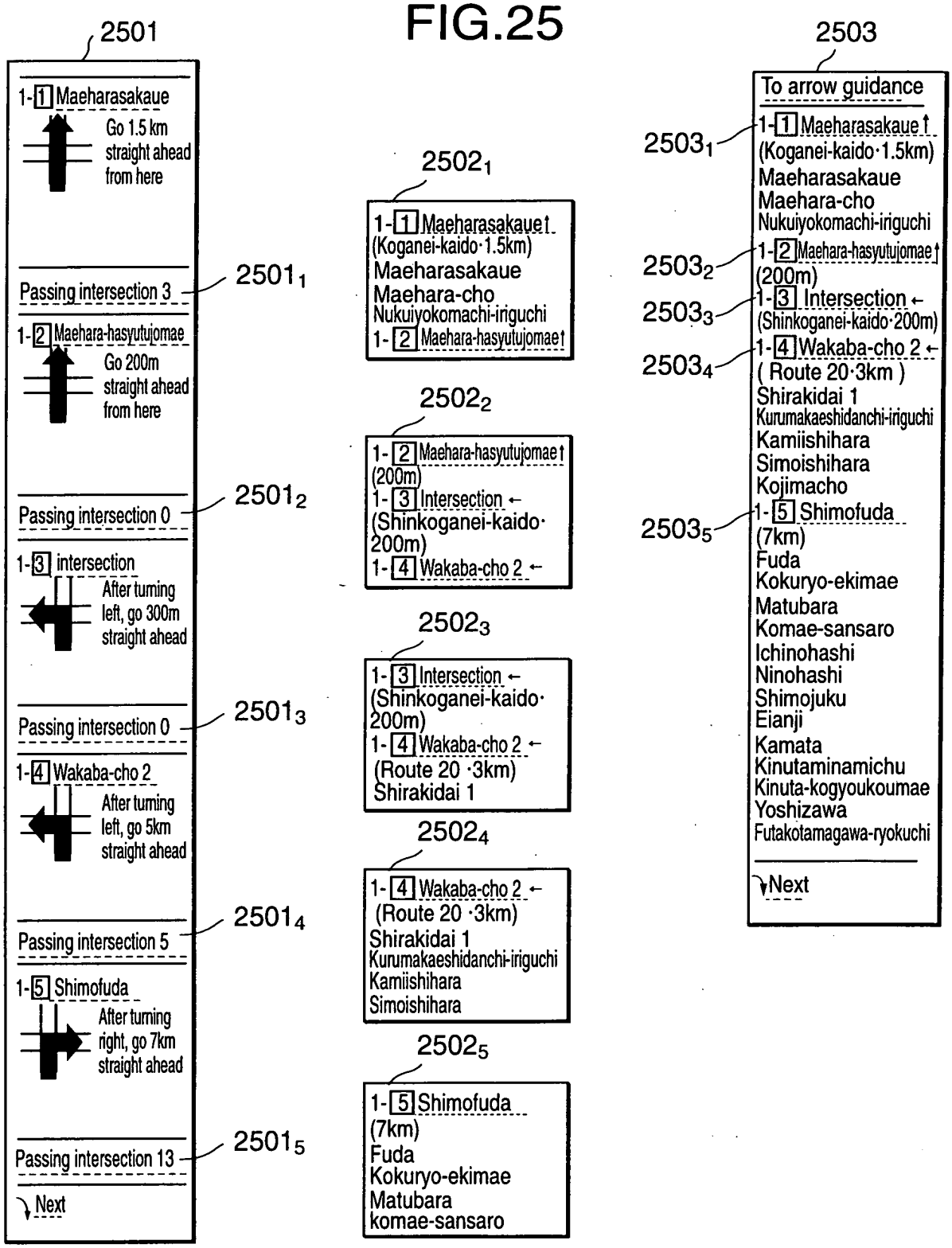

2501
1-1 Maeharasakaue
Go 1.5 km straight ahead from here
Passing intersection 3
2501₁
1-2 Maehara-hasyutujomae
Go 200m straight ahead from here
Passing intersection 0
2501₂
1-3 intersection
After turning left, go 300m straight ahead
Passing intersection 0
2501₃
1-4 Wakaba-cho 2
After turning left, go 5km straight ahead
Passing intersection 5
2501₄
1-5 Shimofuda
After turning right, go 7km straight ahead
Passing intersection 13
2501₅
Next
2502₁
1-1 Maeharasakaue↑
(Koganei-kaido·1.5km)
Maeharasakaue
Maehara-cho
Nukuiyokomachi-iriguchi
1-2 Maehara-hasyutujomae↑
2502₂
1-2 Maehara-hasyutujomae↑
(200m)
1-3 Intersection ←
(Shinkoganei-kaido·200m)
1-4 Wakaba-cho 2 ←
2502₃
1-3 Intersection ←
(Shinkoganei-kaido·200m)
1-4 Wakaba-cho 2 ←
(Route 20 ·3km)
Shirakidai 1
2502₄
1-4 Wakaba-cho 2 ←
(Route 20 ·3km)
Shirakidai 1
Kurumakaeshidanchi-iriguchi
Kamiishihara
Simoishihara
2502₅
1-5 Shimofuda
(7km)
Fuda
Kokuryo-ekimae
Matubara
komae-sansaro
2503
To arrow guidance
2503₁
1-1 Maeharasakaue↑
(Koganei-kaido·1.5km)
Maeharasakaue
Maehara-cho
Nukuiyokomachi-iriguchi
2503₂
1-2 Maehara-hasyutujomae↑
(200m)
2503₃
1-3 Intersection ←
(Shinkoganei-kaido·200m)
2503₄
1-4 Wakaba-cho 2 ←
(Route 20·3km)
Shirakidai 1
Kurumakaeshidanchi-iriguchi
Kamiishihara
Simoishihara
Kojimacho
2503₅
1-5 Shimofuda
(7km)
Fuda
Kokuryo-ekimae
Matubara
Komae-sansaro
Ichinohashi
Ninohashi
Shimojuku
Eianji
Kamata
Kinutaminamichu
Kinuta-kogyoukoumae
Yoshizawa
Futakotamagawa-ryokuchi
Next

FIG.26

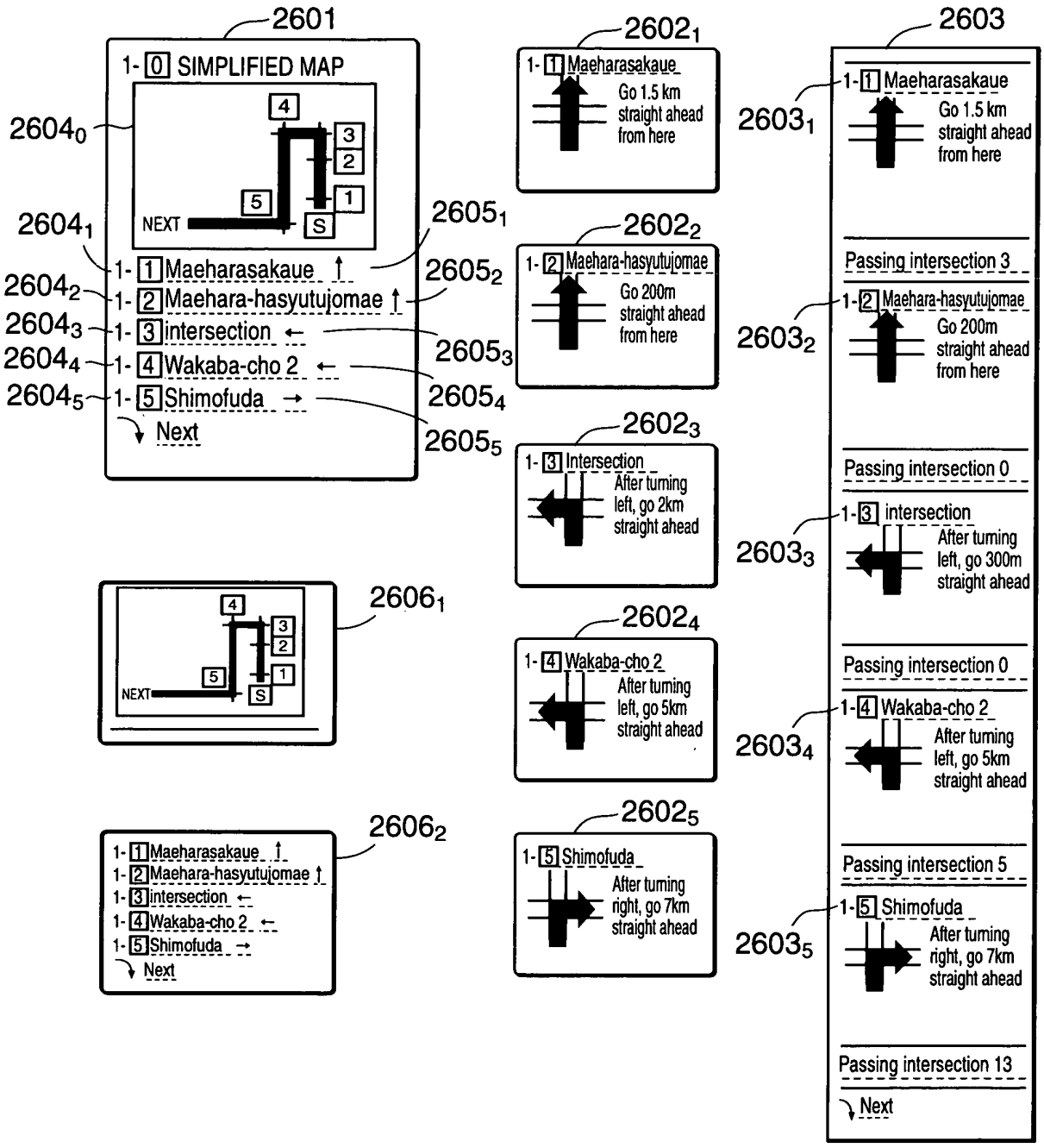
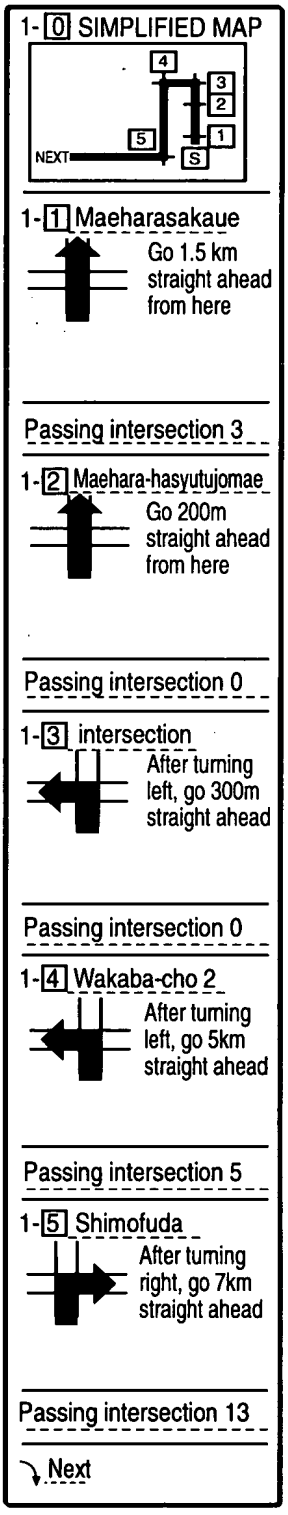
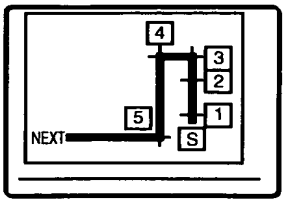
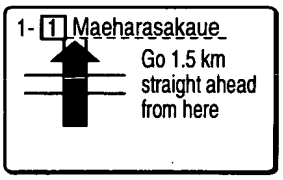
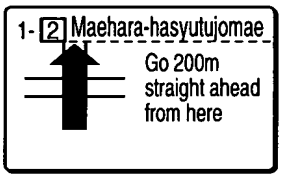

2601
1- 0 SIMPLIFIED MAP
NEXT
1- 1 Maeharasakaue
1- 2 Maehara-hasyutujomae
1- 3 intersection
1- 4 Wakaba-cho 2
1- 5 Shimofuda
Next
2604₀
2604₁
2604₂
2604₃
2604₄
2604₅
2605₁
2605₂
2605₃
2605₄
2605₅
2602₁
1- 1 Maeharasakaue
Go 1.5 km straight ahead from here
2602₂
1- 2 Maehara-hasyutujomae
Go 200m straight ahead from here
2602₃
1- 3 Intersection
After turning left, go 2km straight ahead
2602₄
1- 4 Wakaba-cho 2
After turning left, go 5km straight ahead
2602₅
1- 5 Shimofuda
After turning right, go 7km straight ahead
2606₁
NEXT
2606₂
1- 1 Maeharasakaue
1- 2 Maehara-hasyutujomae
1- 3 intersection
1- 4 Wakaba-cho 2
1- 5 Shimofuda
Next
2603
2603₁
1- 1 Maeharasakaue
Go 1.5 km straight ahead from here
Passing intersection 3
2603₂
1- 2 Maehara-hasyutujomae
Go 200m straight ahead from here
Passing intersection 0
2603₃
1- 3 intersection
After turning left, go 300m straight ahead
Passing intersection 0
2603₄
1- 4 Wakaba-cho 2
After turning left, go 5km straight ahead
Passing intersection 5
2603₅
1- 5 Shimofuda
After turning right, go 7km straight ahead
Passing intersection 13
Next

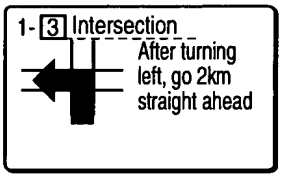
FIG.27

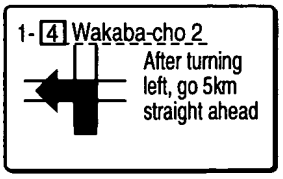

1-0 SIMPLIFIED MAP
4
3
2
1
5
NEXT
S
1-1 Maeharasakaue
Go 1.5 km straight ahead from here
Passing intersection 3
1-2 Maehara-hasyutujomae
Go 200m straight ahead from here
Passing intersection 0
1-3 intersection
After turning left, go 300m straight ahead
Passing intersection 0
1-4 Wakaba-cho 2
After turning left, go 5km straight ahead
Passing intersection 5
1-5 Shimofuda
After turning right, go 7km straight ahead
Passing intersection 13
Next


4
3
2
1
5
NEXT
S


1-1 Maeharasakaue
Go 1.5 km straight ahead from here


1-2 Maehara-hasyutujomae
Go 200m straight ahead from here


1-3 Intersection
After turning left, go 2km straight ahead


1-4 Wakaba-cho 2
After turning left, go 5km straight ahead

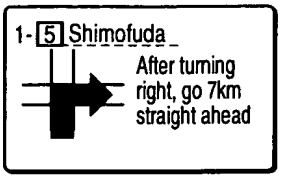

1-5 Shimofuda
After turning right, go 7km straight ahead

FIG.28

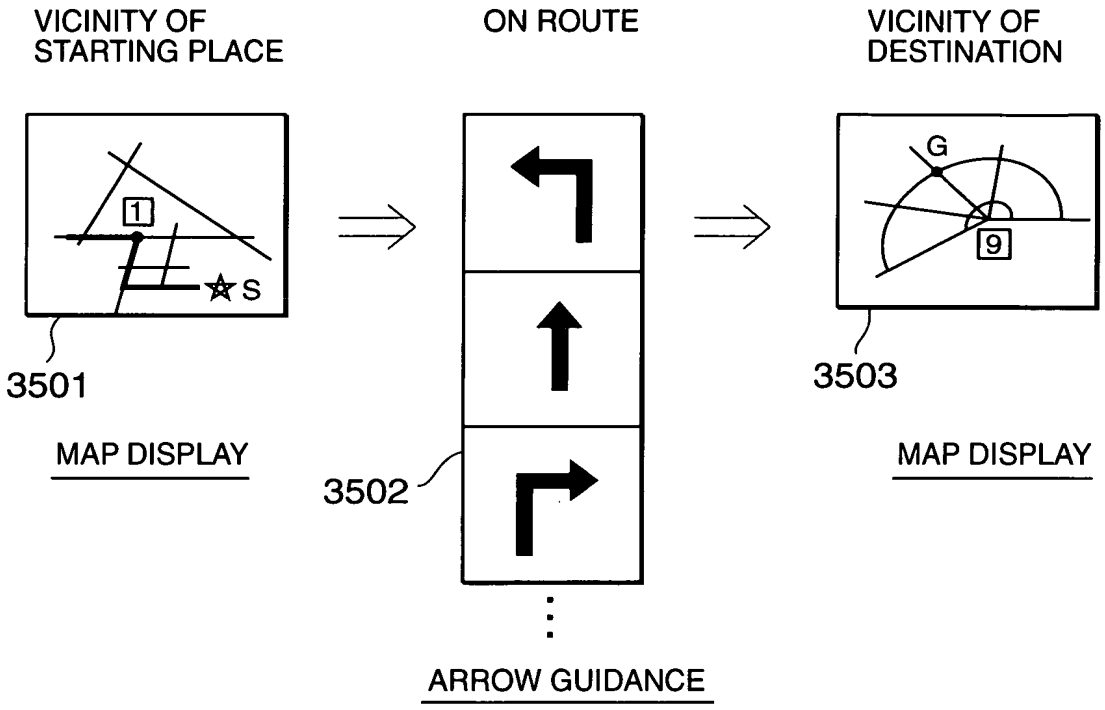

VICINITY OF STARTING PLACE
ON ROUTE
VICINITY OF DESTINATION
1
S
G
9
3501
3503
MAP DISPLAY
3502
MAP DISPLAY
ARROW GUIDANCE

FIG.29

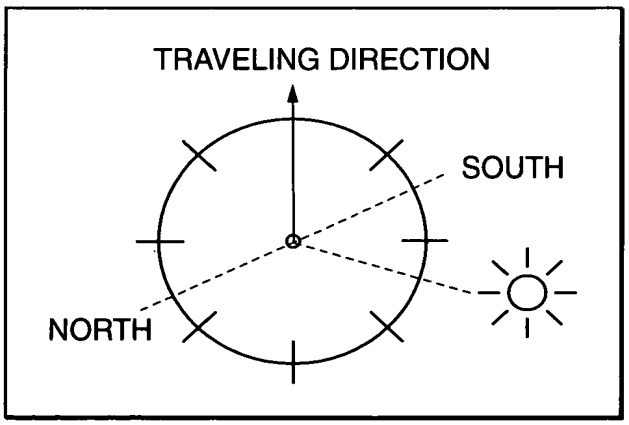

TRAVELING DIRECTION
SOUTH
NORTH

FIG.30

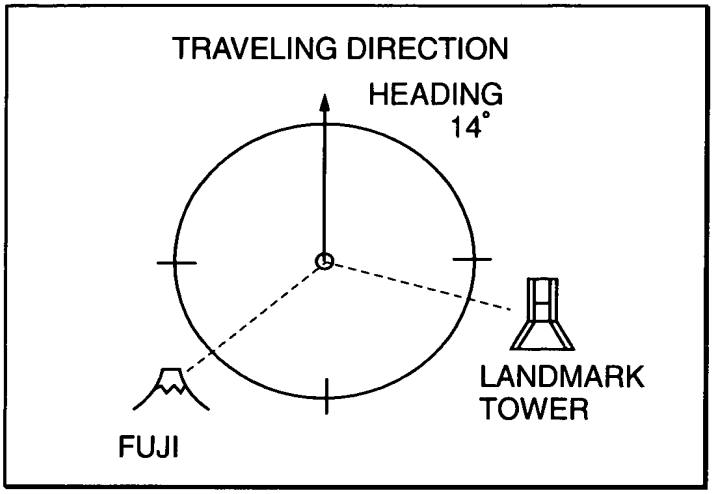


FIG.31

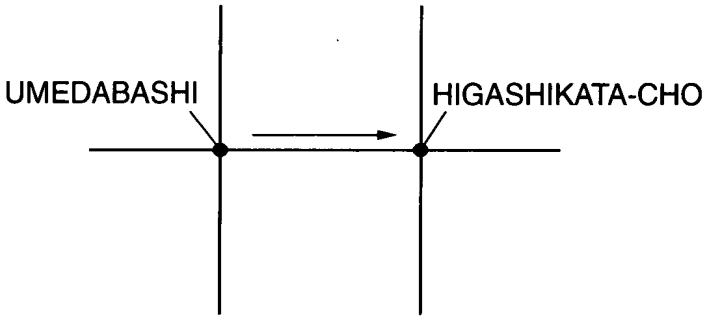


FIG.32

FIRST INTERSECTION

UMEDABASHI

NEXT INTERSECTION

HIGASHIKATA-CHO

STARTING PLACE SETTING

FIG.33

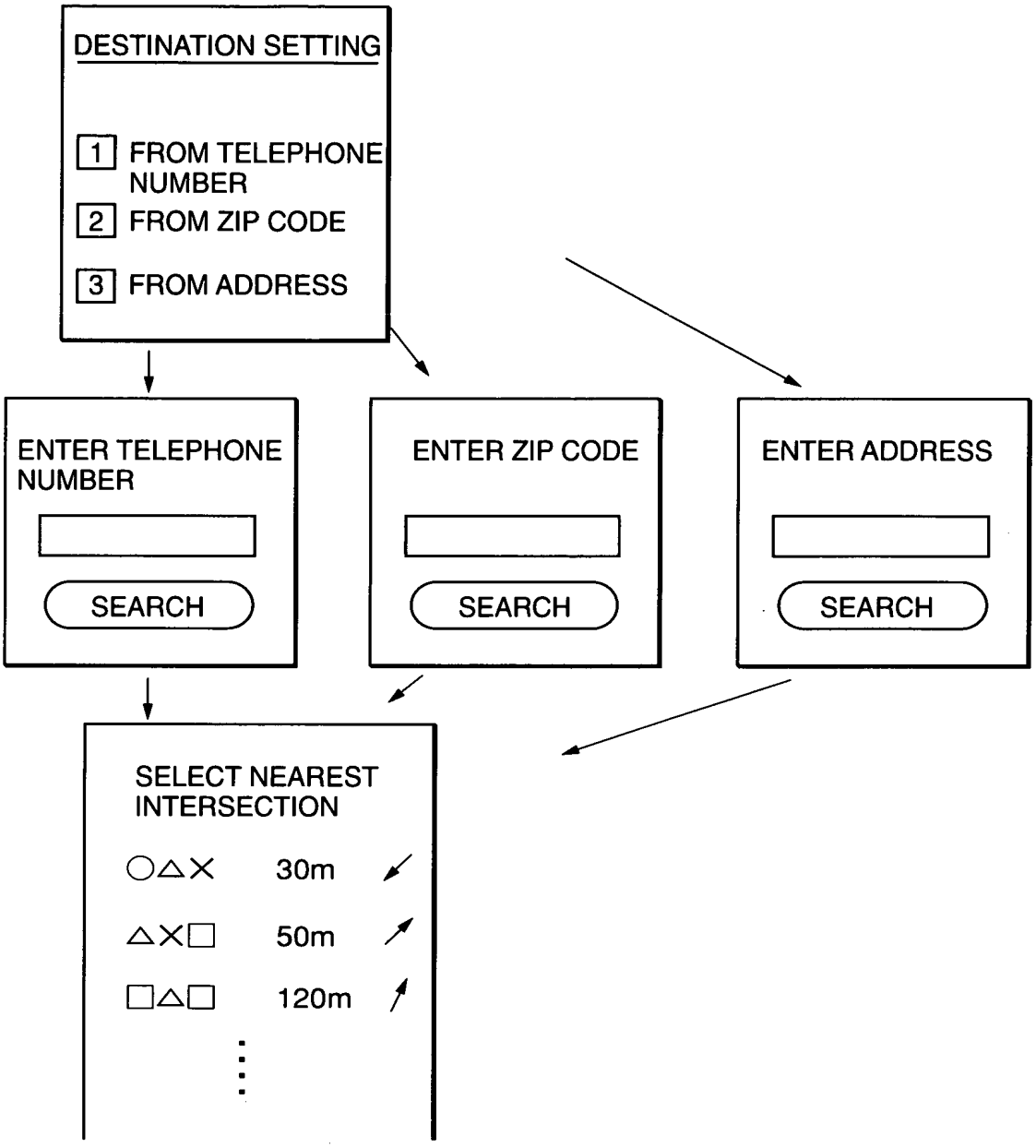

DESTINATION SETTING
1 FROM TELEPHONE NUMBER
2 FROM ZIP CODE
3 FROM ADDRESS
ENTER TELEPHONE NUMBER
SEARCH
ENTER ZIP CODE
SEARCH
ENTER ADDRESS
SEARCH
SELECT NEAREST INTERSECTION
○△× 30m
△×□ 50m
□△□ 120m

FIG.34

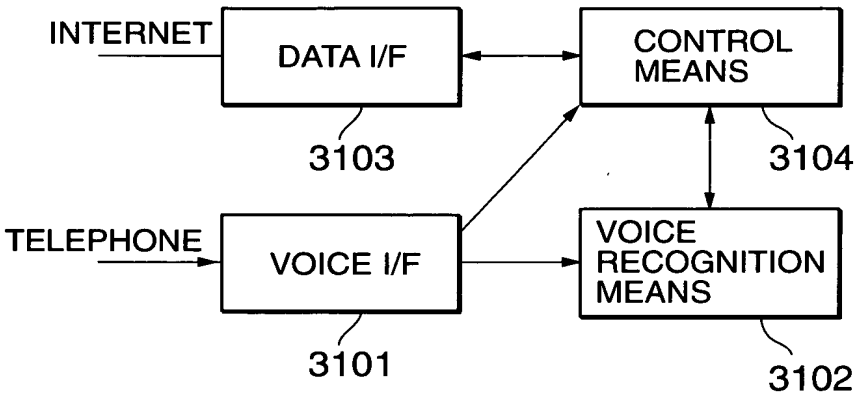

INTERNET
DATA I/F
CONTROL MEANS
3103
3104
TELEPHONE
VOICE I/F
VOICE RECOGNITION MEANS
3101
3102

FIG.35

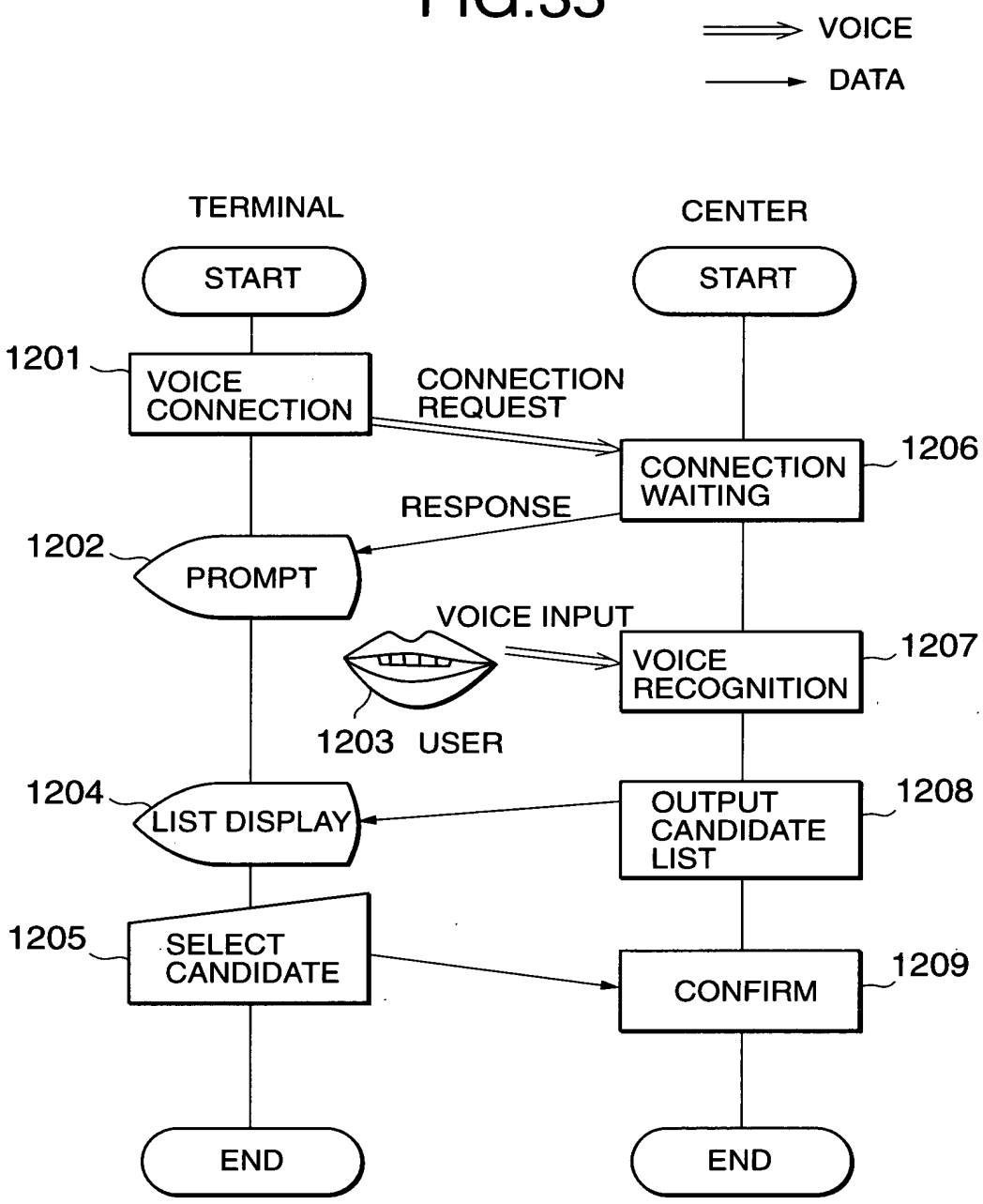

VOICE
DATA
TERMINAL
CENTER
START
START
1201
VOICE CONNECTION
CONNECTION REQUEST
CONNECTION WAITING
1206
RESPONSE
1202
PROMPT
VOICE INPUT
VOICE RECOGNITION
1207
1203 USER
1204
LIST DISPLAY
OUTPUT CANDIDATE LIST
1208
1205
SELECT CANDIDATE
CONFIRM
1209
END
END

FIG.36

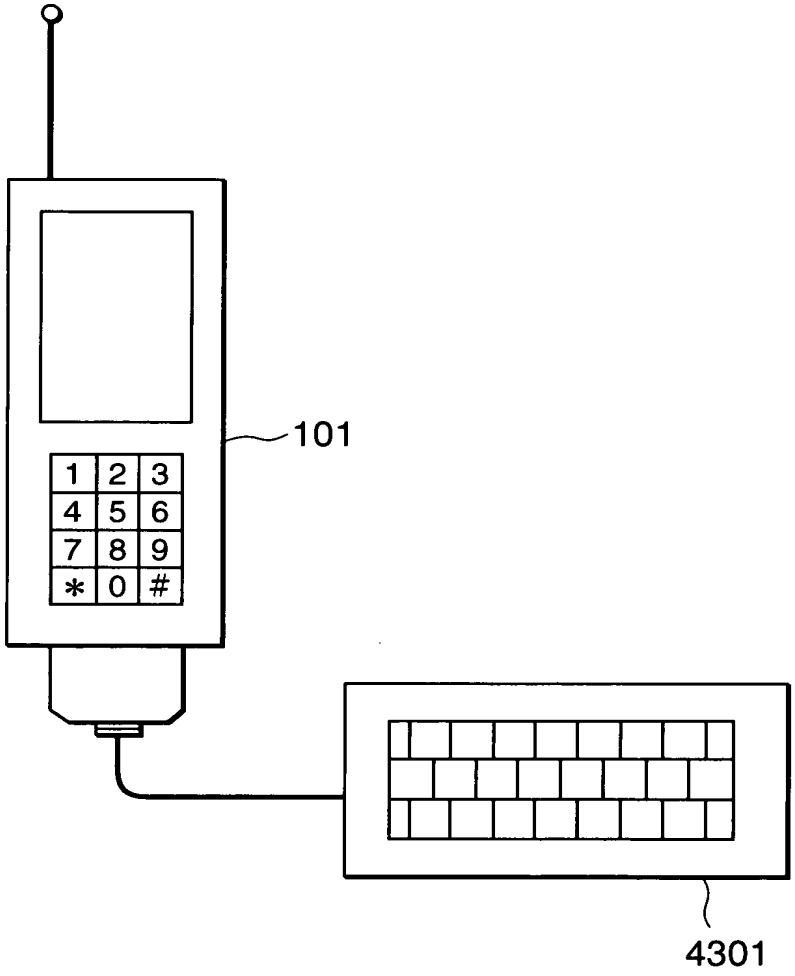
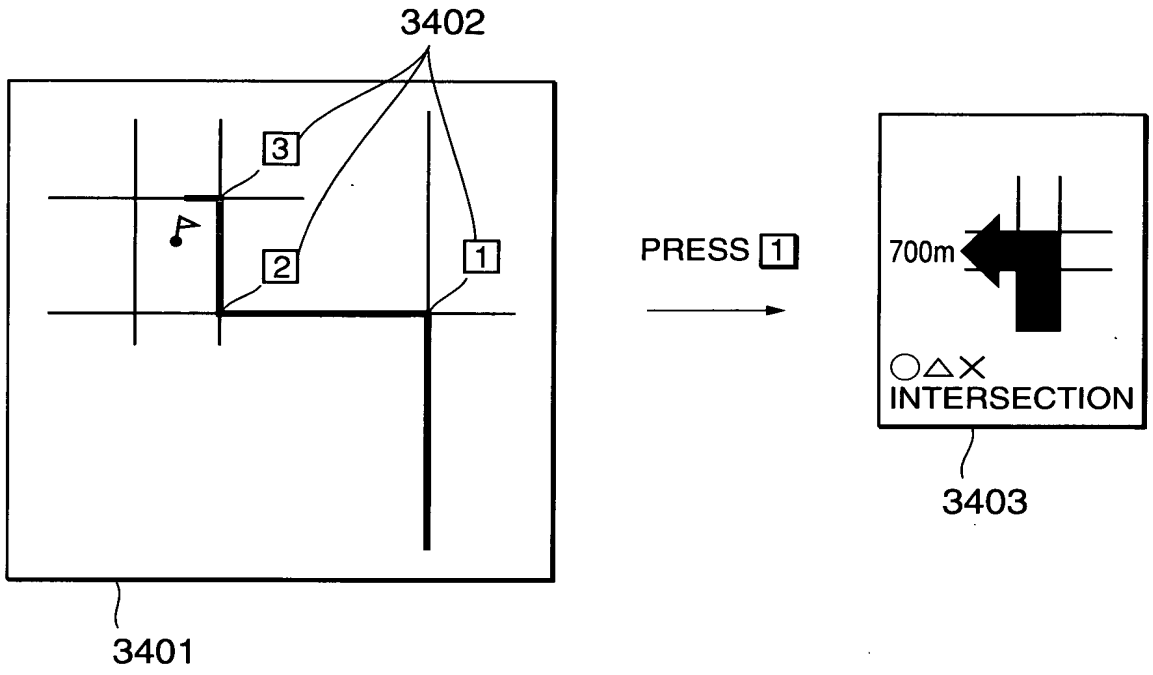


FIG.37



ROUTE DIAGRAM

FIG.38

http://nav.○○○.com/cgi/nav.dll?search?

ox=135.1234?oy=35.1234?dx=135.4321?dy=35.4321

LATITUDE AND LONGITUDE OF STARTING PLACE

LATITUDE AND LONGITUDE OF DESTINATION

?mode=0?ver=1.0

SEARCH MODE

MAP VERSION

FIG.39

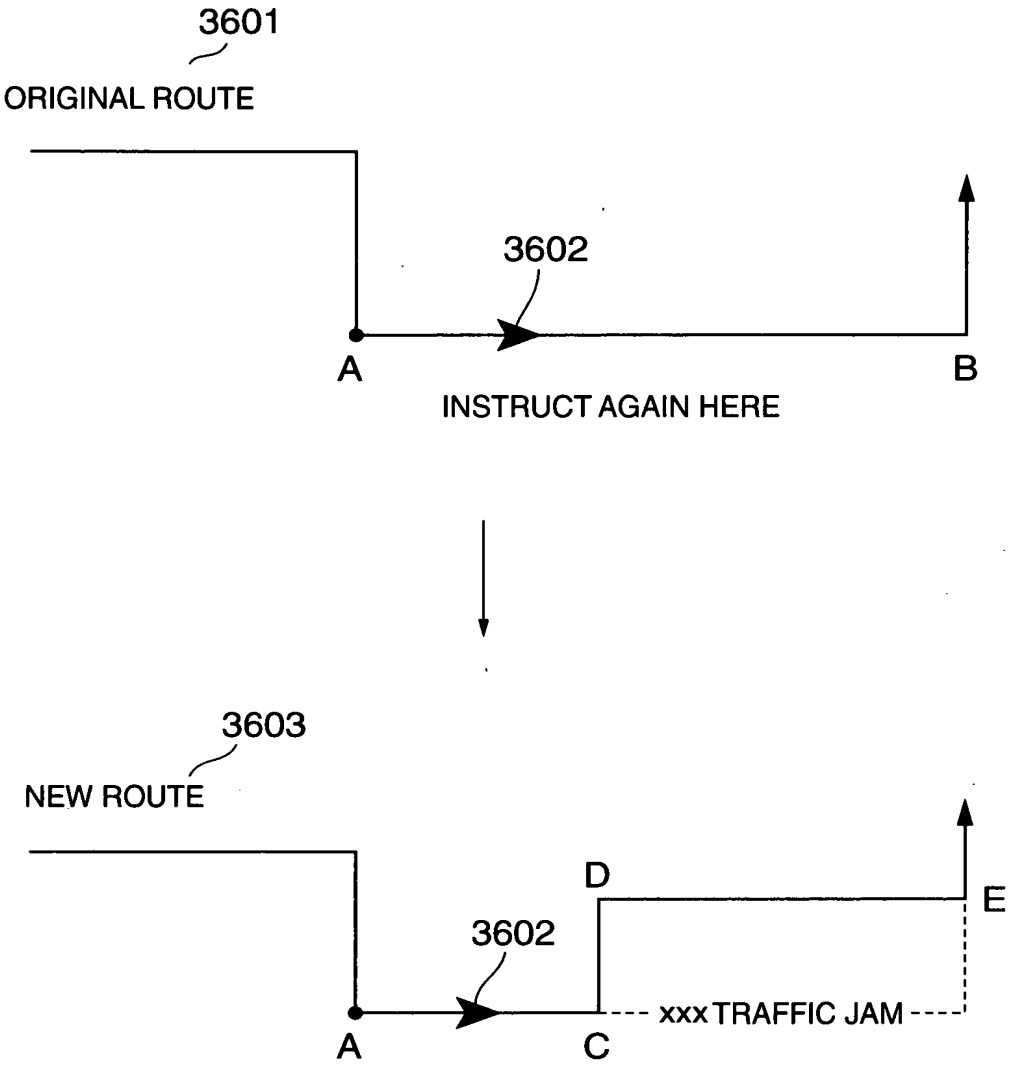

3601
ORIGINAL ROUTE
3602
A
B
INSTRUCT AGAIN HERE
3603
NEW ROUTE
D
E
3602
A
C
xxx TRAFFIC JAM

FIG.40

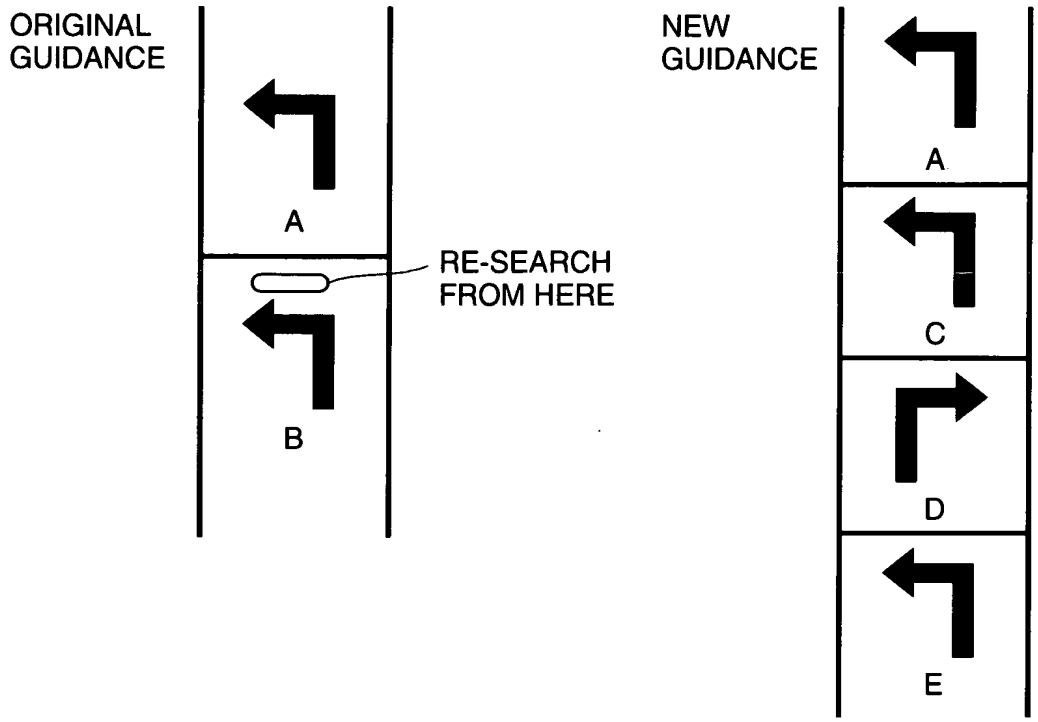

ORIGINAL GUIDANCE
A
RE-SEARCH FROM HERE
B
NEW GUIDANCE
A
C
D
E

FIG.41

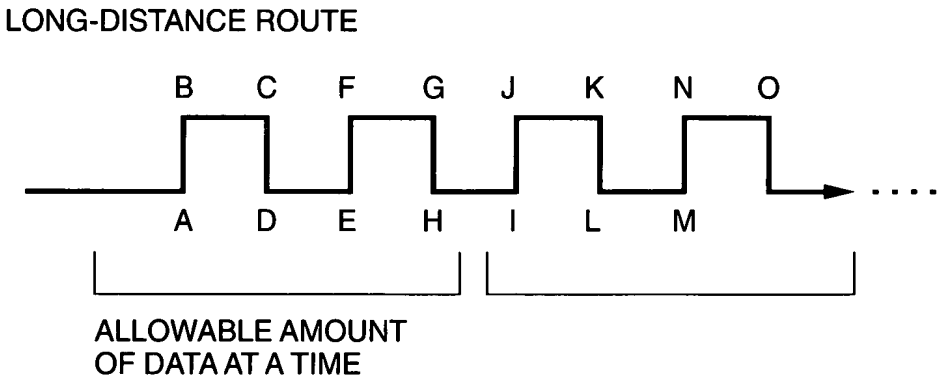

LONG-DISTANCE ROUTE
B C F G J K N O
A D E H I L M
ALLOWABLE AMOUNT OF DATA AT A TIME

FIG.42

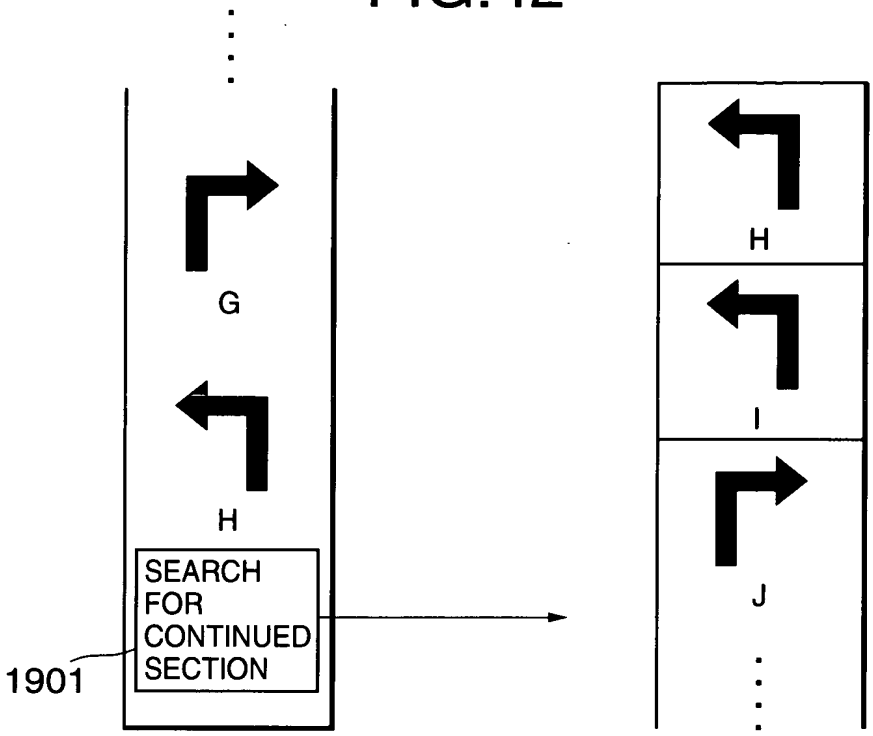

G
H
SEARCH FOR CONTINUED SECTION
1901
H
I
J

FIG.43

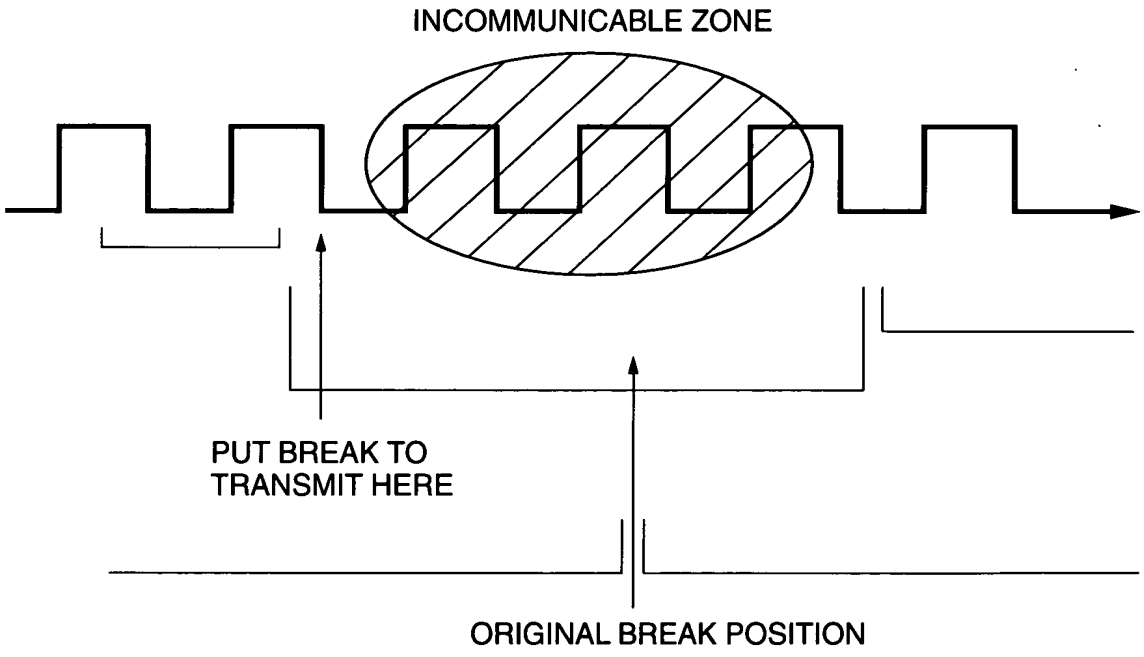

INCOMMUNICABLE ZONE
PUT BREAK TO TRANSMIT HERE
ORIGINAL BREAK POSITION

FIG.44

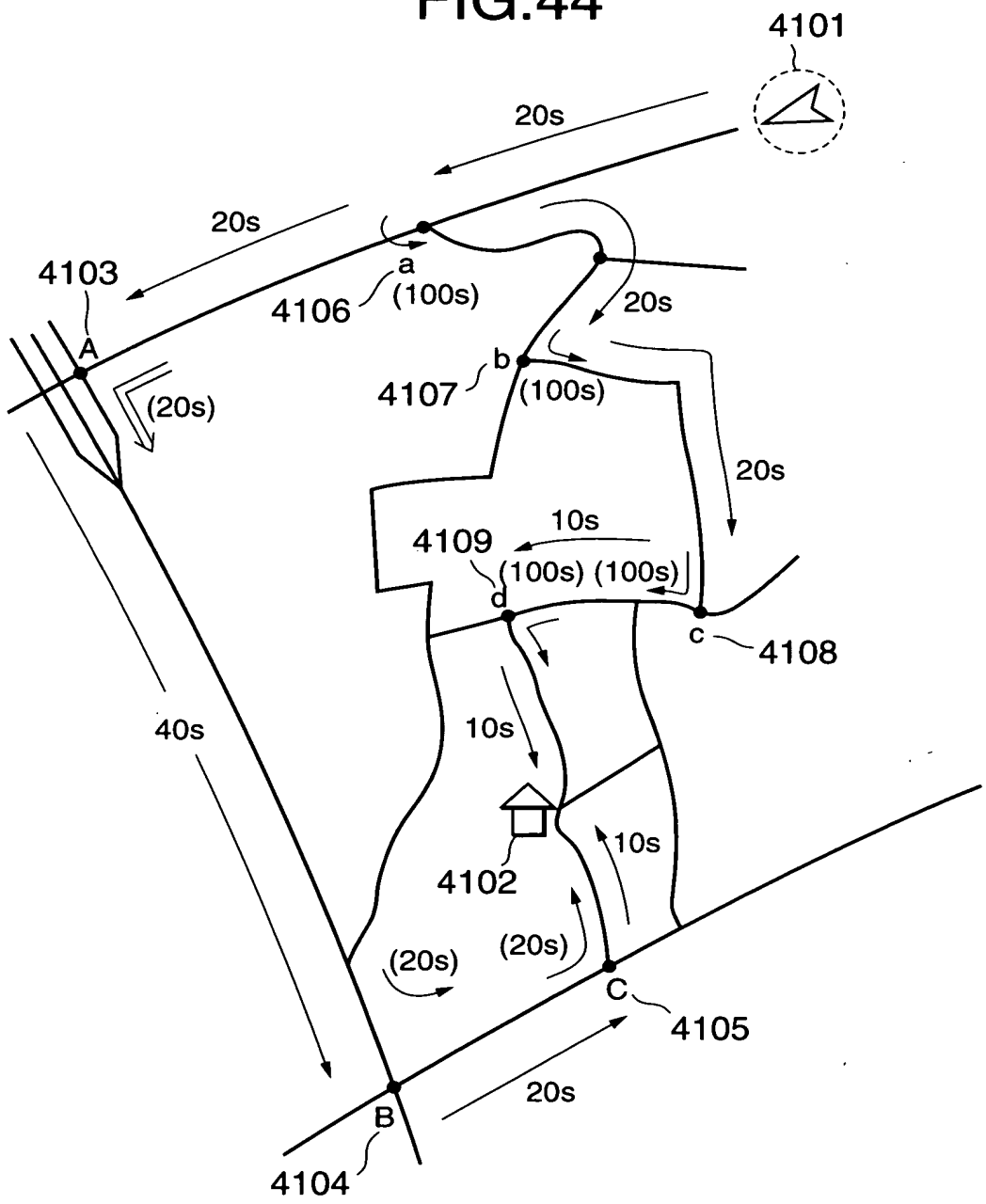
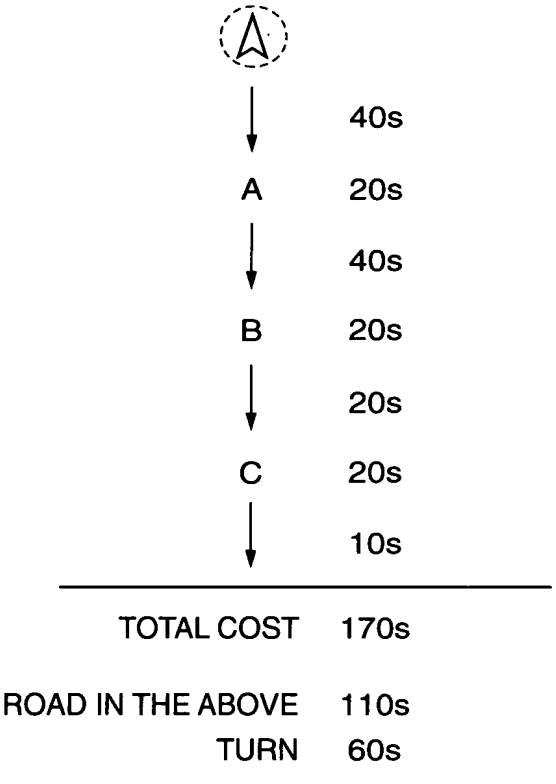

4101
20s
20s
4103
a
4106
(100s)
20s
A
b
4107
(100s)
(20s)
20s
10s
4109
(100s) (100s)
d
c
4108
40s
10s
4102
10s
(20s)
(20s)
C
4105
20s
B
4104

FIG.45



TOTAL COST	170s
ROAD IN THE ABOVE	110s
TURN	60s

FIG.46

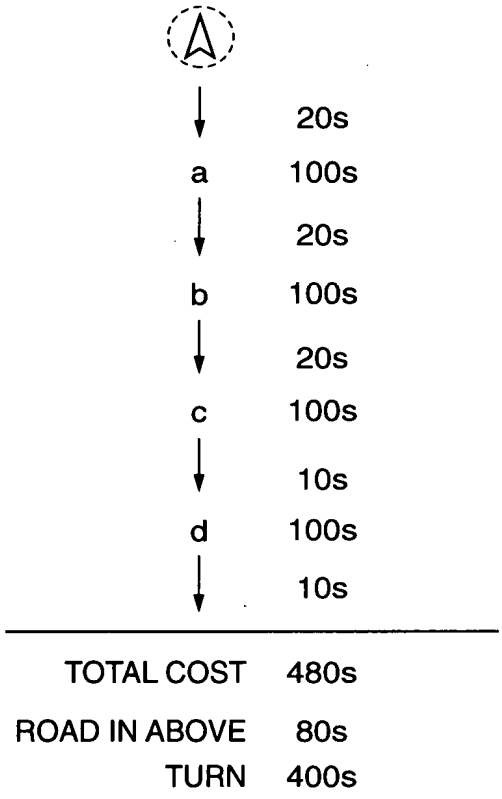

20s
a
100s
20s
b
100s
20s
c
100s
10s
d
100s
10s
TOTAL COST 480s
ROAD IN ABOVE 80s
TURN 400s

FIG.47

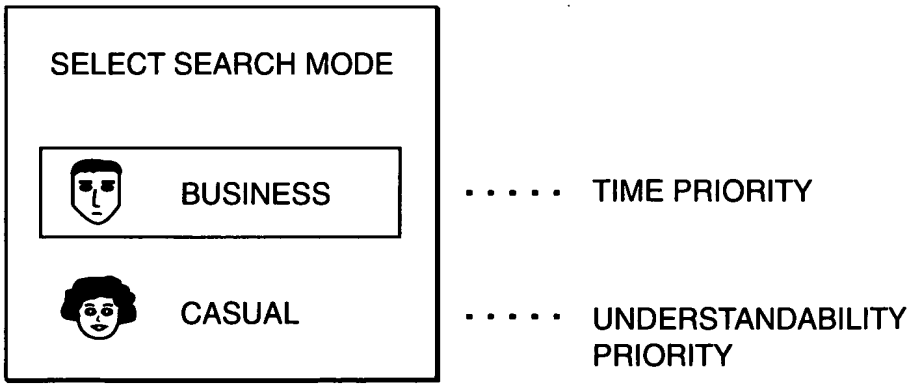

SELECT SEARCH MODE
BUSINESS
CASUAL
TIME PRIORITY
UNDERSTANDABILITY PRIORITY

FIG.48

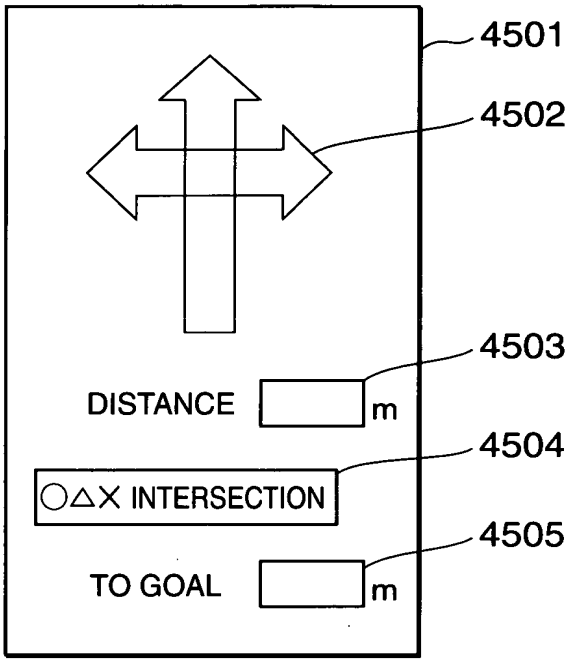

4501
4502
4503
DISTANCE
m
4504
○△X INTERSECTION
4505
TO GOAL
m

FIG.49

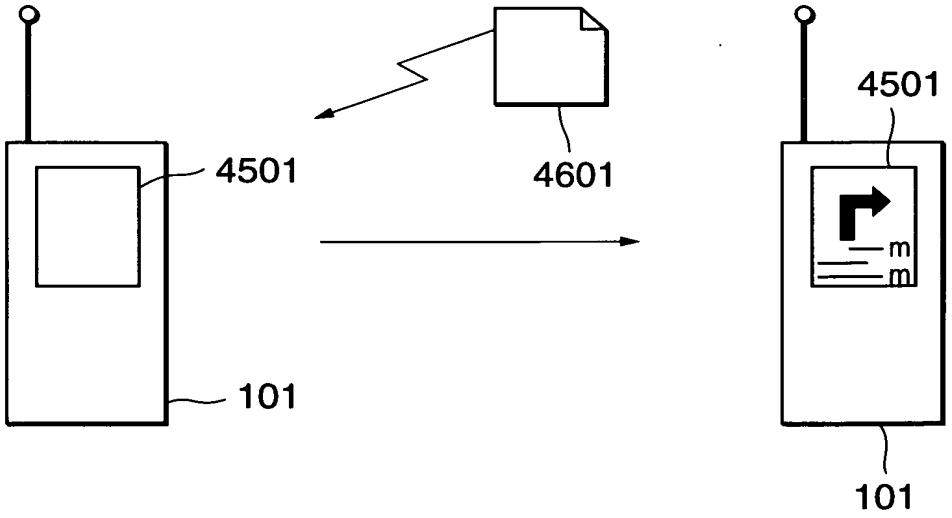

4501
4601
4501
m
m
101
101

FIG.50

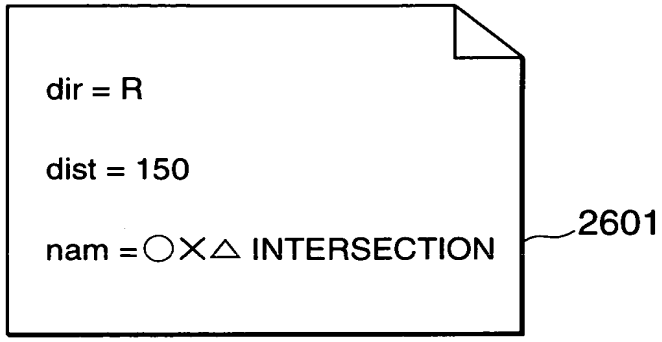


FIG.51

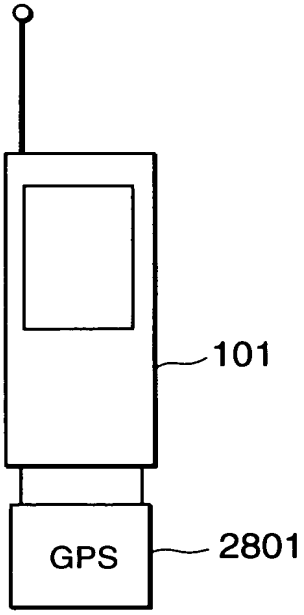


FIG.52

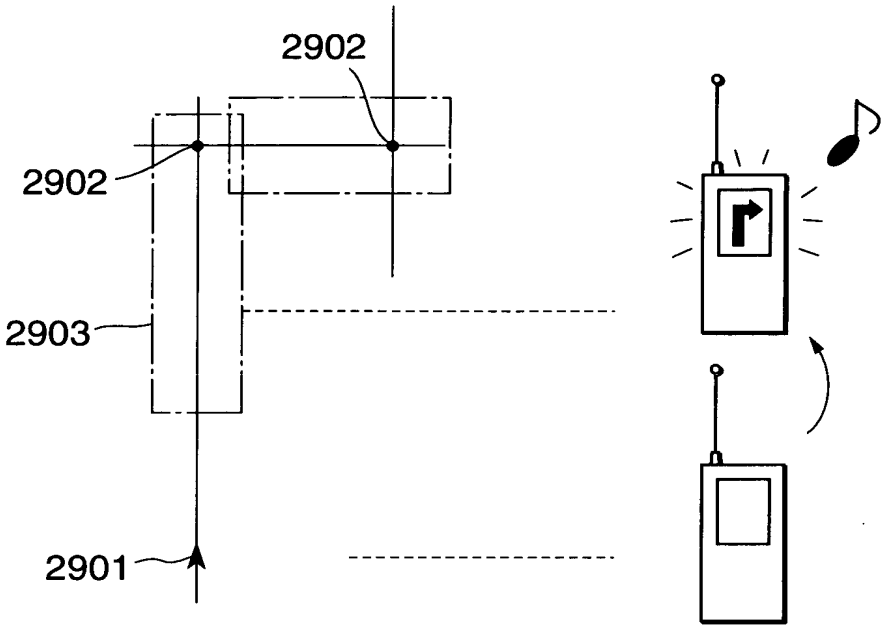


FIG.53

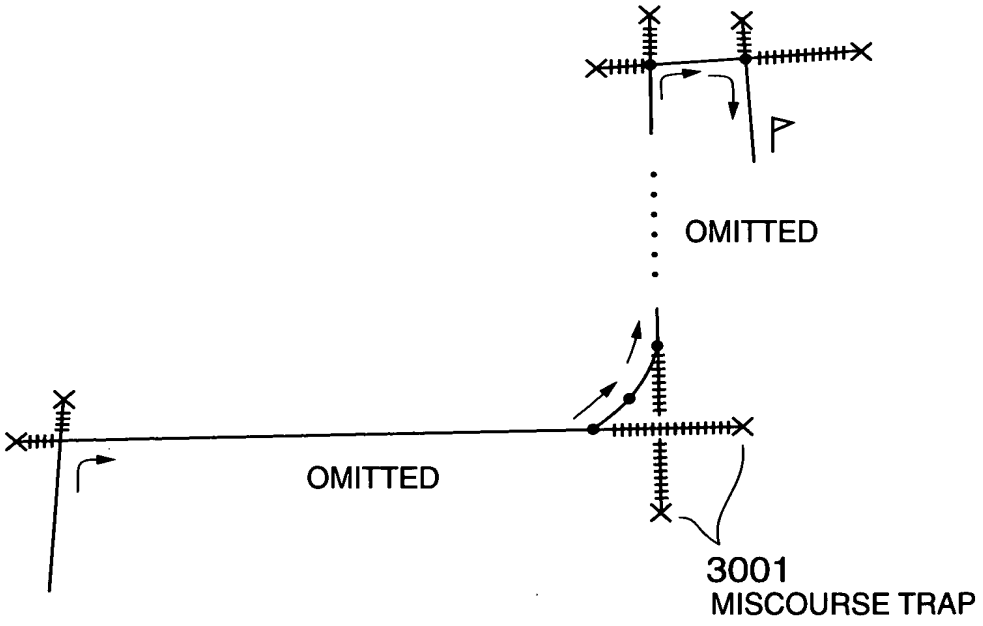


FIG.54

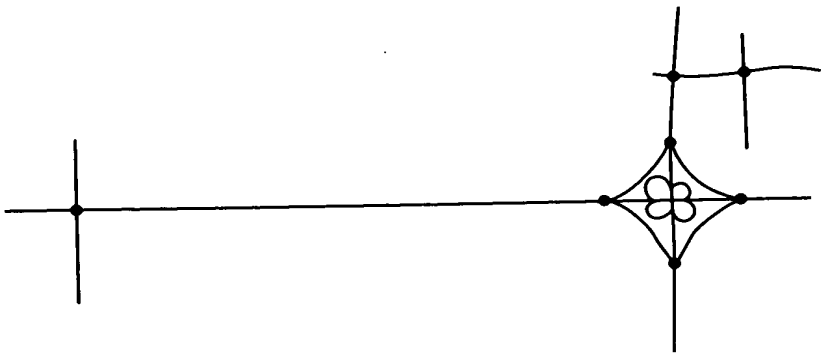
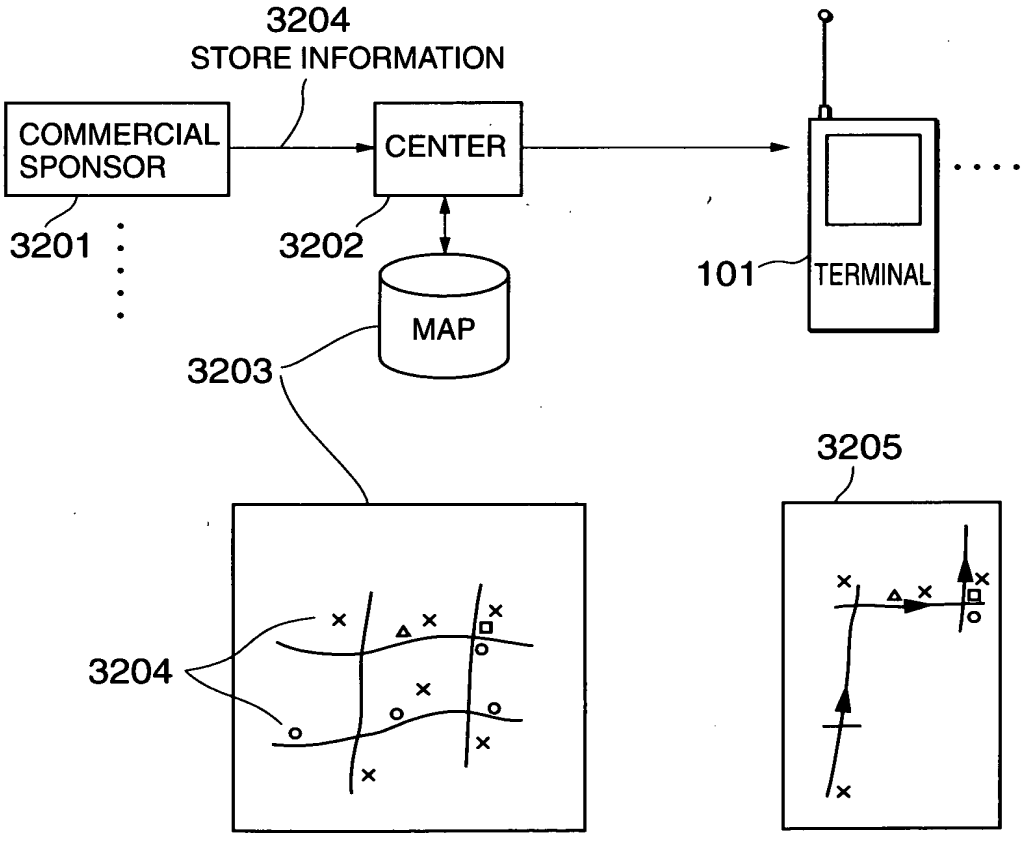


FIG.55


3204
STORE INFORMATION
COMMERCIAL SPONSOR
CENTER
3201
3202
MAP
3203
101
TERMINAL
3205
3204

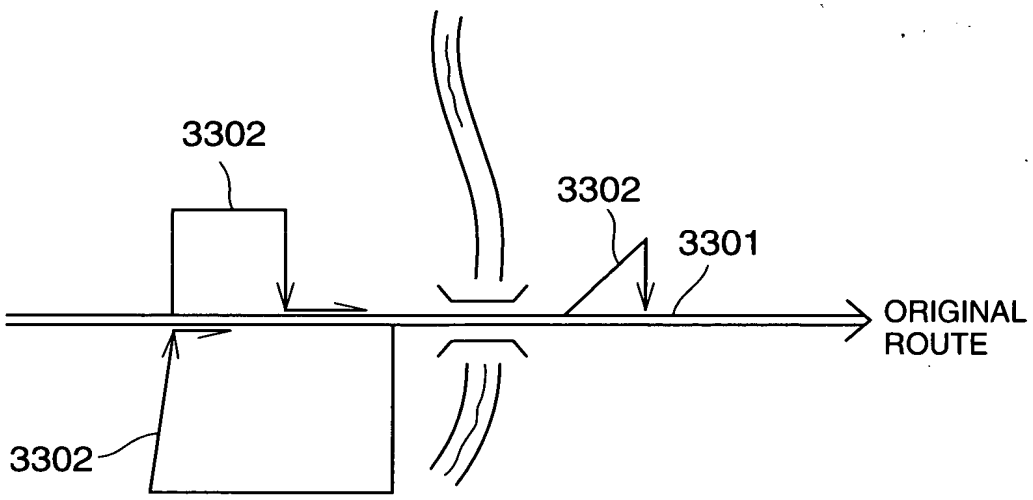



FIG.56